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Spanish Merino wools and the Nouvelles Draperies: an industrial transformation in the late-medieval Low Countries

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*Spanish merino wools and the nouvelles draperies: an industrial transformation in the late medieval Low Countries*¹

By JOHN MUNRO

I

The world's finest quality wools have long been those produced by the descendants of the Spanish *merinos*, 'the aristocracy of sheep throughout the world'.² For many centuries, however, the English had stoutly maintained that their own wools were unrivalled in fineness and quality.³ In his *Wealth of nations* (1776), Adam Smith caustically rejected such opinions, still common in his day, in particular the common belief 'that fine cloth could not be made without' English wools. Quite the opposite was true, he asserted, for 'fine cloth is made altogether of Spanish wool' and, furthermore, 'English wool cannot be even so mixed with Spanish wool as to enter into the composition without spoiling and degrading, in some degree, the fabric of the cloth'.⁴

Nevertheless, up to the sixteenth century, English assertions of producing Europe's finest wools were no patriotic conceit. As Van Uytven has noted, 'the superiority of English wool was a commonplace in medieval literature'.⁵ Furthermore, recent archaeological evidence from late-medieval woollen fabrics discovered in Novgorod substantiates those literary claims. Not only were these English wools by far the finest found there, but they were so fine

¹ I am grateful to the Social Sciences and Humanities Research Council of Canada for supporting the research for this article in the Belgian archives through its research grants programme, with four SSHRC grants from 1993 to 2003; and I am also very grateful to the three very perceptive and helpful referees of this article, which has had a long gestation. Its first version was a paper delivered to the Mid-West Medieval Conference, in Madison, Wisconsin, in November 1973, which, fortunately, I never sought to publish, since it lacked much of the research now contained in this published version. It was revised for Session 16 of the XIIIth International Economic History Congress, in Buenos Aires, July 2002 (and also not published); and it has been revised several times since then.

² Lopez, 'The origin of the merino sheep', p. 151. Cf. Ryder, *Sheep & man*, p. 425: that *merino* sheep were 'the leading producer of clothing wool of the modern world'.

³ Quoted in Lipson, *Short history of wool*, pp. 10, 16, 36.

⁴ Smith, *Wealth of nations*, pp. 5–16. Much of this passage was plagiarized from Smith, *Chronicon rusticum-commerciale*, II, pp. 499, 542. Ryder, *Sheep & man*, p. 426, notes that c.1700 England was importing 2 million lb. of Spanish *merino* wools to make 'superfine' woollens. See also Hartwell, 'Destiny of British wool', pp. 320–38.

⁵ Van Uytven, 'Cloth in medieval literature', p. 177.

(17 to 24 microns) that they 'were comparable only to the present-day wool of the *merino* sheep'.⁶

Lastly, evidence can be cited from the records of their chief customers, the cloth manufacturing industries in the medieval Low Countries. For example, a *keure* or ordinance of the Bruges drapery, dated 1282, stipulated that the drapers were to distinguish the various grades of their woollens by the following insignia on their lead seals: for those made from English wools, with three crosses; for those made from Scottish wools, with two crosses; those from Irish wools, with one cross; and those from domestic Flemish wools, a half-cross—and Spanish wools are conspicuous by their absence.⁷ Numerous other ordinances from this period leave no doubt that English wools were by far the most highly prized, though far from being the only ones used in the Low Countries' cloth industries of the twelfth, thirteenth, and early fourteenth centuries.⁸ The best English wools were then by far the most expensive, as were the textiles made from them; and such high market prices presumably do reflect their superior quality.⁹

II

As the 1282 Bruges ordinance indicates, the thirteenth-century Flemish cloth industry had not confined itself just to the production of very costly fabrics woven from fine English wools. Indeed, in a seminal article published in 1987, Patrick Chorley had challenged the long-held traditional views about this industry's luxury orientation during the twelfth and thirteenth centuries by contending that the majority of its textile exports were in the form of relatively cheap, light, low-grade textiles. Amongst the most prominent were both very coarse woollens, and especially worsted-type fabrics: *saies* (says), *serges* (*saergen*), *stanfortes*, *biffes*, *fauderts*, *burels*, *doucken*.¹⁰ Only for the *sayetteries* does the documentation permit us to assert they were never woven from English wools, but rather from those produced domestically, in

⁶ Nahlik, 'Interpretation of textile remains', pp. 603–12; Nahlik, 'The wool of the middle ages', pp. 369–77.

⁷ Espinas and Pirenne, *Recueil de documents*, I, no. 140: 67, p. 396. 'Sealed' cloths are those to which the guild and city inspectors had fixed certain lead seals to certify that they had been inspected for quality controls in wool contents, weaving, fulling, and finishing, etc. See Endrei and Egan, 'Sealing of cloth', pp. 47–76.

⁸ Espinas and Pirenne, *Recueil de documents*, I, no. 77, 196 (Arras: c.1280); no. 651, p. 234 (Saint-Omer: c.1270); no. 141bis, pp. 443–46 (Bruges: 1288); III, no. 765, p. 501 (Ypres: c.1300); Espinas, *Douai au moyen âge*, III, no. 287, pp. 232–334 (Douai: c.1250); and no. 408 (Douai: 1261). For the use of domestic Flemish wools, see Verhulst, 'De inlandse wol', pp. 6–18; Verhulst, 'La laine indigène', pp. 281–327; Van Uytven, 'Hierlandsche wol', pp. 5–16. For the variety of wools used in the Leuven drapery in 1298, see Prims, 'Lakennijverheid', doc. no. 8, pp. 147–8.

⁹ Munro, 'Wool price schedules', pp. 118–69; Munro, '1357 Wool-price schedule'; and Munro, 'Medieval scarlet'.

¹⁰ See Chorley, 'Cloth exports of Flanders', pp. 349–79; Chorley, 'English cloth exports', pp. 1–10; Munro, 'Industrial transformations', pp. 110–48; Munro, 'Origins of the English "New Draperies"', pp. 35–127; Munro, 'Symbiosis of towns and textiles'; Munro, 'Industrial crisis'. For the traditional view, indicating a luxury-orientation during this period, see Pirenne, *Histoire de Belgique*, I and II, *passim*.

Flanders and Brabant, and from Artois, Lorraine, Pomerania, as well as from other parts of the British Isles, especially Ireland.¹¹ Yet, in all likelihood, most of the other cheap fabrics were also produced from non-English or very cheap, and thus grossly inferior, English wools (since the quality and thus the price range of medieval English wools were certainly very wide).¹²

The type and grade of wool selected was the prime determinant of not only the quality, and thus the price of textiles manufactured in medieval Europe, but also of their very form: in terms of weight, texture, and appearance. During this era, the Flemish themselves divided wool-based cloth manufacturing into two major categories: the 'wet' or 'greased' drapery (*draperie ointe, gesmoutte draperie*) and the 'dry' or 'light' drapery (*draperies sèches* or *draperies légères; drooge draperie* or *lichte draperie*). This division roughly corresponds to the more modern English distinction between woollens and worsteds (or: Old Draperies and New Draperies).¹³ The distinction, and a basic knowledge of the technology of cloth-manufacturing, is absolutely fundamental in understanding why the finer English medieval wools and then the early modern Spanish *merino* wools were used only in manufacturing the former group of textiles, while the earlier medieval, pre-*merino* Spanish wools had been restricted to just the very lower grades of the latter, though in fact banned from the production of most wool-based textiles. Such indisputable evidence is itself proof that wool production in medieval and early modern Spain underwent an astonishing transformation in both physical properties and thus in quality and price, one not well understood in the current literature.¹⁴

Genuine woollens were woven from very fine, very short, and curly-fibred wools, which were heavily greased in butter or oil for three related reasons: to restore the natural oils or lanolin lost in extensive wool-scouring; to facilitate the combing (warps), carding (wefts), spinning, and weaving processes; and thus to protect these very delicate fibres from entanglements or damage in these processes. After their removal from the loom, the woollen cloths were subjected to extensive fulling. In the traditional process of foot-fulling, virtually the exclusive method used in the Low Countries from the early-fourteenth to early-sixteenth centuries, the fullers placed the woven cloth in a large, long vat, containing a mixture of hot water, fuller's earth (*floridin*, with hydrous aluminium silicates, usually *kaolinite*), and urine. A pair of journeymen then trod upon the cloth, in this noxious emulsion, for three days (or more for very luxurious cloths). Their objectives were

¹¹ Coornaert, *Hondschoote*, pp. 189–98; and Coornaert, 'Draperies rurales', pp. 63–64. See also Van Uytven, 'Hierlandsche wol', pp. 5–16; Verhulst, 'Inlandse wol', pp. 6–18; Verhulst, 'Laine indigène'; and sources in n. 191 below.

¹² See Munro, 'Wool price schedules'; and nn. 48, 65, 67, and 88 below.

¹³ For the following discussion, see, along with sources cited above in notes 10–12, the following: Chorley, 'Evolution of the woollen', pp. 7–34; Chorley, 'Draperies légères'; Munro, 'Textile technology', pp. 693–715; Munro, 'Medieval woollens: textiles and textile technology', pp. 181–227; Munro, 'Manufacturing and industry', pp. 345–55.

¹⁴ In my view, this is the chief weakness in Carla Rahn and William Phillips fine monograph: *Spain's golden fleece* (1997).

achieved through a combination of intense pressure, heat, and the reaction of the chemicals: to scour and cleanse the cloth and thus to remove all the grease; and to force these short, scaly, and curly fibres to interlace, interlock, felt, and then shrink, so that the fulled cloth would acquire its necessary cohesion, strength, and tenacity. The very heavy weight of these woollens was itself largely the product of such shrinkage, which reduced the surface area by more than 50 per cent. Fulfilled in this fashion, these heavy woollens were virtually indestructible, lasting several lifetimes.¹⁵

The fulled woollens were then tautly stretched, by hooks, on a tentering frame, to remove any wrinkles, and to ensure even dimensions throughout (thus restoring some of the lost surface area). The cloth was then handed over to the cloth-finishers, who subjected it to repeated 'raising' or 'napping' (with thistle-like teasels), in order to raise the loose fibres of the 'nap', which were then shorn with long, sharp shears. The end result of both fulling and finishing was the complete obliteration of the weave, and a very soft texture, rivalling that of some silks.

In sharp contrast, the fabrics produced by the 'dry' or worsted-type draperies were made from much stronger and longer-stapled, straight-fibred wools, which required neither initial scouring nor any greasing—and hence the term 'dry drapery'. Fully combed, rather than carded, the resultant yarns, for both warps and wefts, when properly twisted in the spinning processes, had sufficient strength and cohesion so that, when woven, they were in essence fully manufactured, as reasonably durable cloths, though far less durable than fulled woollens. Thus, they did not require any real fulling, beyond a brief and simple cleansing; nor were they tenterred, 'napped' (teaselled), or shorn. Consequently, they were much lighter—and coarser—cloths, whose weave was perfectly visible, thereby providing an element of the cloth's design or fashion, especially with diamond or lozenge weaves. Included in these *draperies sèches* were hybrid fabrics, including the famous Hondschoote *saies*, which were composed of 'dry' long-stapled warps (combed) and shorter-stapled greased wefts (carded); and these were generally given a cursory fulling, though usually left unshorn. While the purely worsted fabrics generally had only 25 per cent of the weight of the true and extensively fulled woollens, the hybrid fabrics had about 40 per cent of their weight, as is indicated in table 1.¹⁶

The products of both branches of cloth making, the *draperies ointes* and the *draperies sèches* or *légères*, had a very wide-ranging continuum of values, from the extremely expensive *scarlets* (whose purchase would have cost a

¹⁵ Elsewhere, especially in Italy, France, Spain, and England, fulling had become mechanized with water powered mills, as early as the tenth century in Italy. See Malanima, 'First European textile machine'; Carus-Wilson, 'Industrial revolution', p. 211; Munro, 'Textile technology', pp. 693–715; Munro, 'Industrial crisis'; Munro, 'Industrial entrepreneurship'; Munro, 'Medieval woollens: textiles, technology', pp. 191–217; Stabel, *De kleine stad*, pp. 151–54 (on Flemish cloth-fulling and finishing).

¹⁶ See Munro, 'Origins of the English "New Draperies"', tab. 4, pp. 49–51, pp. 87–93; Munro, 'Medieval woollens: struggles for markets', tabs 5.7–5.8, pp. 312–16.

Table 1. *The composition and weights of selected woollens and worsteds in Flanders and England, during the 15th and 16th centuries*

	<i>Flanders: Ghent</i>	<i>Flanders: Armentières</i>	<i>Flanders: Hondshoote</i>	<i>England: Suffolk</i>	<i>England: Essex: Colchester</i>
Type of textile industry	Traditional <i>Draperie Ome</i>	<i>Nouvelle Draperie</i>	<i>Sayetterie</i> : semi-worsted	Old Drapery: woollens	New Drapery: semi-worsted
Name of cloth	Dickedinnen: 5 seal woollen broadcloth	Oultrefin woollen broadcloth	Small double say	Woollen broadcloth	Single bays
Dates of ordinance	1461; 1546	1510–12; 1546	1571; 1586	1552	1579
Wools used	English: Cotswolds, Middle March, Berkshire	Spanish: 67% English: 33%: Cotswolds, Lindsey, Berkshire	Flemish, Scottish, Frisian, Kempen, Pomeranian: worsted warp and woollen weft	short-stapled fine English wools for both warp and weft: Cotswolds, Berks	English worsted warps: woollen wefts
Warp-count	2066	1800	1800	n.a.	n.a.
Loom-length ^a	42.5 ells = 29.75 m	42.0 ells = 29.40 m	40.0 ells = 28.00 m	n.a.	n.a.
Loom-width	3.625 ells = 2.54 m	3.00 ells = 2.10 m	1.4375 ells = 1.01 m	n.a.	n.a.
Fulled-length	30.00 ells = 21.00 m	30 ells = 21.00 m	36.75 ells = 25.73 m	24.00 yards =	34 yards =
Fulled-width	2.375 ells = 1.663 m	2.00 ells = 1.400 m	0.875 ell = 0.613 m	21.946 m	31.090 m
Area: square metres	34.913	29.4	15.006	1.75 yards =	1.00 yard =
Final weight in kg	22.126	24.123	5.103	1.600 m	0.914 m
Grams per square metre	633.766	820.503	340.052	35.117	28.428
				29.03	9.979
				826.656	351.025

Notes: ^a 1 Flemish ell = 0.700 metre = 27.559 inches.

Sources: Ghent: Stadsarchief Gent, Reeks 93, reg. KK, fo. 103^v; Boone, 'Nieuwe teksten over de Gentse draperie'; Lameere and Simont, *Recueil des ordonnances*, vol. V, pp. 272–73; Armentières: De Sagher, *Recueil des ordonnances*, vol. I, no. 36(2), p. 102; Hondshoote: De Sagher, *Recueil des ordonnances*, vol. II, no. 290, pp. 362–69; no. 291, pp. 378–81; no. 299, p. 415; England: Suffolk: woollen broadcloths, *Statutes of the Realm*, IV:1, pp. 136–37 (statute 5–6 Edward VI, c.6); England: Essex (Colchester): bays: Pilgrim, 'New Draperies', pp. 36–59.

medieval master mason several years' income) to the relatively cheaper *biffes* and some says.¹⁷ Generally speaking, the more expensive fabrics were products of the *draperie ointe* and the cheaper fabrics were products of the *draperies sèches* or *légères*; but there were some woollens that were as cheap as (or even cheaper than) the better semi-worsted products of the latter branch. The term 'relatively cheap' does not mean, however, that the lower strata of thirteenth-century Mediterranean society, let alone the truly poor, could afford to buy such textiles from the northern *draperies légères*, especially not after transport costs and taxes were added into the sales price. Such people were much more likely to have worn homespun or domestically made fabrics.¹⁸

III

Of the very wide variety of wools used in the manufacture of these various cloths in north-western Europe during the thirteenth and early-fourteenth centuries, surprisingly those from Spain were used only rarely—despite the thirteenth-century formation and subsequent prominence of the 'Mesta Real' organization of Castilian sheep-herders.¹⁹ Thus, the *keurboeken* or guild regulations of the Flemish and Artesian textile towns of this era permitted the use of 'Spanish' wools only for the very lowest quality *saergen* or similar products of the lowest strata of the *draperies légères*, and possibly only for domestic consumption.²⁰ Otherwise, in this era, these Franco-Flemish draperies contemptuously rejected Spanish wools, classing them with other forbidden wools (forbidden at least for 'sealed' cloth production), such as: *waterwulle*, *hoedewulle*, *peelwulle*, *plootwulle*, *vlocken*, and similar *faulx lanages*.²¹ In the great Artesian drapery of Arras, that ban on the use of

¹⁷ Munro, 'Medieval scarlet'; and Munro, 'Textiles as articles of consumption'.

¹⁸ For evidence that the 'cheaper-line' textiles sold in the Mediterranean basin were still too costly for the average peasant or craftsmen, in the early fourteenth century, see Munro, 'Origins of the English "New Draperies"', tab. 5, p. 55; tab. 7, p. 88; Fryde von Stromer, 'Stamford cloth', pp. 8–13; and especially Epstein, *Freedom and growth*, p. 106, which offers some perfectly valid criticisms of my earlier published views, concerning these cloth values. See also sources cited in n. 10; and see also below, pp. 440–2 and nn. 38–40.

¹⁹ See Klein, *Mesta*; and Phillips and Phillips, *Spain's golden fleece*, pp. 28–9, 36–7.

²⁰ Gilliodts-Van Severen, *Ancienne estaple de Bruges*, I, no. 14 [1200], p. 19; II, no. 616 [c.1300], p. 225: wools of Navarre, Aragon, Leon, Castile, Galicia; Gilliodts-Van Severen, *Archives de la ville de Bruges*, II, no. 616 (c.1300), p. 225; and Espinas and Pirenne, *Recueil de documents*, I, no. 140:6 (1282), p. 389.

²¹ See Espinas and Pirenne, *Recueil de documents*, I, no. 142:22, pp. 456–7: 'so wie die waterwulle, jof spaensche wulle minghede met andre wulle, jof hoedewulle, jof spaensch garen met anderen gaerne, jof vlocken met wulle' was to be exiled from Flanders for three years (Bruges drapery *keure* of c.1290). Similar bans in *Ibid.*, I, no. 139–54, p. 377 (Bruges, 1282); no. 141:25, p. 400 (Bruges, 1284); no. 20, p. 49 (Aardenburg, c.1350); no. 63, p. 159 (Arras, 1367); and in III, no. 758:14 (Ypres drapery *keure* of c.1290): 'a savoir ke le fileit ke on claime waterwullin est tenu pour faus et fileit de Yspaigne . . .'. The term *waterwulle* meant wools damaged by moisture; *hoedewulle* were refuse wools or clippings, discarded in various cloth-making processes, that were used in making felt hats and hoods; *vlocken*, *flocons*, *bourres* were also refuse or waste wools produced by fulling, napping, and shearing. See De Poerck, *La draperie médiévale*, II: *Glossaire français* and III: *Glossaire flamand*, especially in nn. 85, 115 below. See also note 7 above (for cloth seals).

Spanish wools lasted until as late as 1377, and certainly no Flemish or other drapery in this region permitted the use of Spanish wools in this era.²²

Surprisingly, no Spanish wools are mentioned in the Venetian wool tariff of c.1300, nor in the Veronese drapery regulations of 1319, even though the Italian cloth industries of this era were also manufacturing a wide variety of relatively cheap and light fabrics. No Spanish wools are mentioned, in fact, until the late fourteenth century.²³ Furthermore, the textile industries within thirteenth-century Spain itself (Castile, Catalonia-Aragon) were evidently devoted almost exclusively to the production of relatively cheap, light, and coarse fabrics.²⁴

Finally, in late-thirteenth and early-fourteenth century England, the few surviving 'Particulars' customs accounts indicate that small but sometimes significant quantities of Spanish wools were being imported, with a peak import in 1308–9.²⁵ During this period, English cloth exports were then even more oriented to the cheaper, lighter fabrics than were the Flemish or Italian.²⁶ Nevertheless, in 1262, the weavers of Andover (north-west of Winchester, in Hampshire) had prohibited the use of any Spanish wools in making cheap kerseys (*cerseis*).²⁷ More accommodating were the London burellers' guild, whose ordinances, reconfirmed in 1299–1300 (28 Edward I) and 1321, indicate that their craft was principally devoted to the production of relatively cheap, coarse, and light fabrics, far lighter than broad-cloths, with the following specified weights for cloths, all having a width of six-quarter ells (1.5 yards): cloths woven from Spanish wools, 11.0 lb. (5.0 kg); *menuet* and *andley*, 9.0 lb., 'coming from the weaver'; *bissets*, 9.5 lb.; rayed cloths (*reies*), *porreis*, and *hawes*, 10.0 lb. in weight—very low

²² Espinas and Pirenne, *Recueil de documents*, I, no. 66:5, p. 168 (1377): 'Qu'il ne soit aucuns ne aucune qui . . . mette ou face mettre es dis draps faulx lanage, si comme boure, flocon, laneuse, laneton, gratusse, pomele, filé d'Espagne, filé de Bonnival, ne aultres faulx lanages quelconques'. The contention in Stabel, *De kleine stad*, pp. 131–2, that Kortrijk's drapery *keure* of April 1378 permitted the use of Spanish wools is not justified by the text: concerning 'alle sudersche wulle die comen sal binnen der stede van Curtrike'; for *sudersche* cannot be translated as Spanish, nor even as 'southern' (i.e. *zuidelijk*) but perhaps as scoured (cleansed, from *suveren*), or possibly Kampen wools from the Zuider Zee region; as in n. 95 below. For the Kortrijk *keure*, see Espinas and Pirenne, *Recueil de documents*, I, no. 205, p. 667; and also the ordinance of Dec. 1401 (which does not mention these wools, and certainly not Spanish), in *Ibid.*, no. 207, pp. 670–5.

²³ Rossini and Mazzaoui, 'Società e tecnica nel medioevo', pp. 22–23. The Venetian tariff includes seven varieties of wool (but none from Iberia); the Veronese regulations mention only North African and English wools.

²⁴ See Riu, 'Woollen industry in Catalonia', pp. 205–29; Iradiel Murugarren, *Evolución de la industria textil castellana*; Phillips and Phillips, *Spain's golden fleece*, pp. 194–5; Childs, *Anglo-Castilian trade*, pp. 70–5; Munro, 'Industrial crisis', pp. 103–41.

²⁵ For details on Spanish wool imports, see Childs, *Anglo-Castilian trade*, pp. 73–5. The peak imports of 1308–9 amounted to 268 sacks plus 298 bales (of unknown weight), worth about £400–500 sterling (citing National Archives [P.R.O.], E.122/136/8). For several examples of Spanish wool imports into Sandwich (taxed by the 1303 New Custom), for Mich. 1304–Mich. 1305, see Gras, *Early English customs system*, pp. 312–24, doc. no. 34: e.g., Philip Furner, for £28 6s 0d worth of 'lane Hispanie'.

²⁶ See Munro, 'Industrial crisis', pp. 103–41; Chorley, 'English cloth exports', pp. 1–10; Childs, 'English export trade in cloth', pp. 121–47; Childs, *Anglo-Castilian trade*, pp. 70–5.

²⁷ Gross, *Gild merchant*, II, p. 4: 'de illis qui ponun lanam de Ispania in pannis tersegis [cerseis] . . . et promittant etiam quod nullum pannum facient, nisi dicant ballius'.

weights compared to those for later-medieval English broadcloths, which were generally about 64 lb. or 29.03 kg. (see table 1).²⁸ These ordinances, however, similarly forbade the intermixture of Spanish wools with any English wools, and permitted the Spanish wools alone to be dyed 'in blecche' (black dye).²⁹

IV

Such wools were quite clearly not the Spanish *merino* wools of subsequent fame, and indeed very different from them in all respects. If the Romans had, according to some reports, produced some good quality wools when they governed Iberia, such wools had evidently disappeared during the subsequent Visigothic era, so that over the many ensuing centuries this region produced some of the very worst wools in all of western Europe.³⁰ No resolution of the vexing problem of when and how the radical transformation took place to allow this region to breed those famed *merino* sheep can be found in Carla Rahn Phillips' and William Phillips' recent authoritative and excellent monograph on the Spanish wool trade; for they admit that 'much of the discussion about the Merino will remain speculative'.³¹

Many years earlier, however, Robert Lopez had offered a still compelling hypothesis on the origins of the true *merinos*: as the result of the fourteenth-century crossbreeding North African 'Barbary' sheep with indigenous Spanish sheep.³² As other historians have also suggested, the name *merino* is probably derived from the Berber tribe, the *Banu Marin*, better known

²⁸ See the *Ordinationes Telariorum* (28 Edwardi I), in Riley, *Munimenta Gildhallae Londoniensis*, II.i, pp. 121–6 (articles 18–23); and II.ii, pp. 544–50; and also: Woodger, 'Eclipse of the burel weaver', pp. 59–76. The dimensions of these cloths were not specified, but they were probably at least 25 to 30 yards. The London *burels* of this era were said to be 40 yards long; and other English *burels* were described as products of the *grant ustil*, which was undoubtedly the horizontal broad loom, designed to weave very long as well as broad cloths.

²⁹ Riley, *Munimenta Gildhallae Londoniensis*, II.i, 125: art. xviii: 'qe nul ne face medle de filetz dEngleterre et dEspayne, mes lun enterement par sei.'; art. xix: 'Et qe nule leyne dEngleterre ne soit teynte en blecche, fors taunsoulement leyne dEspayne; et qe drap de leyne dEspayne soit fait soulement par soy, saunz medlure et doit peiser au meyns xi livres qaunt il vendra de teler'. According to Riley, *Ibid.*, II.ii, 701: 'blecche: probably a peculiar shade of black (from the A.S. *blaec*); and perhaps prepared from woad'.

³⁰ Fear, 'Golden sheep', pp. 151–5; Pastor de Togneri, 'La lana en Castilla y León', pp. 47–70; Phillips and Phillips, *Spain's golden fleece*, p. 40; Ryder, *Sheep & man*, pp. 250, 425, evidently unaware of the evidence for the subsequent, post-Roman, deterioration in the quality of indigenous Spanish wools.

³¹ Phillips and Phillips, *Spain's golden fleece*, pp. 40–1. See Klein, *Mesta*, pp. 8, 12–15, 17–21, 28–30, 320, 607, 708; Ryder, *Sheep & man*, pp. 249–51, 425–36, repeating Klein's view that the name may come from the Berber tribe of 'Beni Merines', 'who settled in southern Spain . . . towards the end of the thirteenth century'; but Ryder (p. 425) seems to give greater weight to the view that *merino* comes 'from the Latin *maiorinus*, a local government official', in particular royal inspectors of sheep-walks.

³² Lopez, 'Origins of the merino sheep', pp. 161–8. Cf. Phillips and Phillips, *Spain's golden fleece*, pp. 40–1: which does not offer a truly fair summary or evaluation of Lopez's thesis. In citing a Genoese document of 1307 (for the first use of the term *merinus*) Lopez did not contend that the introduction or development of *merino* sheep dated from that early era. Gerbert, *Élevage original*, pp. 138–40, was evidently influenced by Phillips in her similarly confused exposition of the 'Alberto' [sic] Lopez thesis, which she does not support. See the next note.

as the Marinids (or Merinids) of Morocco, who invaded Spain in 1275, and almost succeeded in restoring the former Berber Almohad Empire (1130–1269). Possibly, with their reconquest of Andalusia, the Marinids introduced some of their sheep. But, in Lopez's view, that introduction was more likely achieved through Spanish imports, and probably only after the final Castilian victory over the Marinid invaders, at the Battle of Rio Salado in 1340, which finally brought some peace to Christian Spain. Shortly thereafter, according to royal records, Pedro IV of Aragon (1337–87) imported some Barbary rams for his domains.³³ As Lopez also suggested, some considerable time would have been required for experimentations to result in a crossbreeding that would produce higher quality wools, those especially with the very short staples of under 5 cm (2 in); and even more time would have been required for the Castilians to increase their flocks of *merino* sheep to produce sufficient quantities of wool for export.

Evidently those sheep that did become known as *merino* were very different from not only the indigenous Spanish flocks but also from the imported Barbary rams, perhaps because of genetic interactions of recessive genes in the two breeds of sheep. Possibly the shorter and finer wool-fibres were also, as in medieval England, partly the product of various environmental factors and flock management. One such factor may have been the nature of, or changes in, Spain's famed *transhumance*: the annual migrations or itinerant pasturage, from the high northern plateaux of Leon and Segovia some 725 km to the southern plains of Extremadura and Andalusia. These migrations also involved sparse feeding in mountainous regions with often-chilly climates, both of which evidently promoted an improved fineness.³⁴ Indeed, a seventeenth-century English observer later commented that 'there is nothing of this Nature wherein the Spaniards are more curious, than in the manner of feeding their Sheep, which contributeth much to the well growth and fineness of their Fleece'.³⁵ Phillips and Phillips, however, assert that 'there is little question that breeding is the most important determinant of fleece quality', and they also cite some later Spanish authorities who denied

³³ See also Phillips and Phillips, *Spain's golden fleece*, pp. 40–41; Klein, *Mesta*, p. 607; Vicens Vives, *Economic history of Spain*, pp. 250–1, supporting the Lopez thesis; Finot, *Étude historique*, pp. 92–3, also suggesting, from the evidence on Pedro IV's imports of North African rams, a mid-fourteenth-century introduction; Braudel, *The Mediterranean*, I, p. 93; Ryder, *Sheep & man*, pp. 250, also refers to Pedro IV's imports, but makes no mention of the Lopez thesis.

³⁴ See Phillips and Phillips, *Spain's golden fleece*, pp. 7–23, 33–39, 97–125; Klein, *Mesta*, pp. 8, 12–15, 17–21, 28–30, 320, 607, 708; Lipson, *Short history of wool*, pp. 36–39 (stressing the positive physical role of the annual migrations); Carrère, 'Commerce de la laine', pp. 205–19; Melis, 'La lana della Spagna mediterranea', pp. 241–51; Pastor de Togneri, 'La lana en Castilla y León', pp. 47–70; Ruiz Martin, 'Pastos y granaderos en Castilla', pp. 271–85; Gerbert, *Élevage original*, pp. 77–110, 223–59, 329–74; Gerbert, *Élevage sous les rois Catholiques*, pp. 45–73; Cabo Alonso, 'Medio natural y trashumancia', pp. 11–41; Anes, *Cultivos, cosechas y pastoreo*, pp. 11–56; and the several detailed studies in Gómez-Pantoja, *Los rebaños de Geriò*. Nobody, however, has yet explained how *merino* wools were subsequently improved to attain such a high degree of fineness.

³⁵ Sir William Godolphin, Secretary to the English Embassy in Spain (December 1667), cited in Carter, *His Majesty's Spanish flock*, p. 6, n. 469; and pp. 9, 420–21; also cited in Ryder, *Sheep & man*, p. 430.

that transhumance played any significant role in improving wool quality. Nevertheless, they conclude that: 'nutrition, climate, and other factors play roles as well'; and they further state that 'seasonal migration contributed to wool quality in a variety of ways', in particular by providing 'a healthful and fairly consistent combination of temperature, light, humidity, and nutrition for the sheep, within the extreme conditions of the Iberian ecology'.³⁶

The first significant Spanish wool exports, while taking place only several decades after the initial establishment of *merino* flocks, were certainly not those of the fully evolved fine, short-stapled fleece of later renown. Thus, in the earliest Italian records of their commercial use, during the later 1380s and 1390s, the Spanish wools, under the name of *lane di San Mateo*, variously ranked a poor fourth or fifth in value in the Italian draperies of Verona, Prato, Florence, and Genoa: after English, Minorcan, Majorcan, and French wools. In Florence and Prato, in 1396–98, the best Spanish wools, priced at 14.50 florins per 100 lb., were worth only 41.2 per cent of the Cotswolds wools, which sold there for 35.17 florins per 100 lb. Another Prato wool-price schedule of the 1390s similarly priced Spanish wools (£21 0s. 06. *affiorino*) at just 41 per cent of the value of the English wools listed here. At Genoa, in March 1395, Spanish wools cost 10 *lire* per *cantaro*, compared to 26–30 *lire* for English wools (including Cotswolds, at 26–28 *lire*) per *contaro*.³⁷ How and why subsequently, in the early to mid-fifteenth century, possibly improved Spanish *merino* wools were introduced into some of the woollen cloth industries in the southern Low Countries can be answered only by examining the radical changes in international commerce, especially in the textile trades, during the late thirteenth and early to mid-fourteenth centuries.

V

As I have argued elsewhere, a spreading stain of almost continuous, widespread, and very disruptive wars from the 1290s, throughout the Mediterranean basin and western Europe, sharply raised both the transportation and general transaction costs in long-distance international trade to often prohibitive levels for commerce in relatively low-valued commodities, especially the cheaper-line textiles.³⁸ Those rising costs, especially when

³⁶ Phillips and Phillips, *Spain's golden fleece*, p. 99. See also Ryder, *Sheep & man*, pp. 427–36, for the importance that he ascribes to Spanish transhumance, noting (p. 428) that *transhumantes merinos* are 'larger, more slender and long-legged, with finer wools', than those in more sedentary flocks.

³⁷ Data extracted from Rossini and Mazzaoui, 'Società e tecnica nel medioevo', p. 47; Melis, *Aspetti della vita economica*, doc. no. 350 (Aug. 1390), p. 488; and pp. 536–37, 542, and table facing p. 554; Melis, 'La lana della Spagna mediterranea', pp. 241–51; Heers, 'Il commercio nel Mediterraneo', pp. 192–95; Origo, *Merchant of Prato*, pp. 69–70, 74–76. San Mateo was then a Catalan town that served as a distribution centre for Castilian, but also other Iberian wools.

³⁸ See Munro, 'Industrial transformations', pp. 110–48; Munro, 'Origins of the English "New Draperies"', pp. 35–127; Munro, 'Symbiosis of towns and textiles', pp. 1–74; Munro, 'New institutional economics', pp. 1–47; Munro, 'Industrial crisis', pp. 103–41; Munro, 'Low Countries' export trade', pp. 1–30; North and Thomas, *Rise of the western world* pp. 79–85, 89–94, 134–8.

combined with often-severe regional depopulation in major cloth markets, undermined the commercial economies of scale requisite for a sustained international commerce in such cheap commodities. Obviously the producers of these cheaper-line textiles that were most affected were those in the Low Countries, northern France, and England, because most of their exports had been directed to far-distant Mediterranean markets. As I have sought to demonstrate in these publications, the proof for this virtual extinction of the northern *sayetteries* and other *draperies légères*—at least as export-producers—can be found not just from the sudden disappearance of their guild records and marketing activities, but also the virtual disappearance of their products in Mediterranean markets, from the 1330s. Of those *sayetteries* that had once been so predominant, only two significant centres managed to survive, and just barely, into the fifteenth century: those of Arras and Hondschoote, which maintained some Hanseatic markets. But, only shadows of their former selves, they did not achieve a sustained recovery before the end of that century.³⁹

Consequently, most of the cloth industries in northwestern Europe chose to re-orient their export-oriented production to the manufacture of high-priced luxury woollen textiles, i.e. to the upper ranges of the *draperies ointes*. Such a re-orientation, a veritable industrial transformation, had two related objectives that would have better ensured the survival of cloth-manufacturing, commerce, and some prosperity in this region, albeit for a smaller number of producers and merchants. First, the value to weight ratios for these luxury cloths meant that they could far better sustain the rise in transport and transaction costs than could commerce in cheap textiles. Second, such production involved a far higher degree of product differentiation—especially in those techniques designed to convince consumers of superior quality over competitors' products. Thus these draperies, at least collectively in terms of the drapers' guilds in each town, rather than in terms of individual producers, became 'price-makers' engaged in *monopolistic competition*, designed to make the demand for their individual products much less elastic. That demand structure allowed them to raise prices, to some reasonable degree, to meet any rising costs without necessarily losing too many customers.⁴⁰

³⁹ For Hondschoote, see below, nn. 186–95; Coornaert, *Hondschoote*, pp. 10–43; Munro, 'Origins of the English "New Draperies"', tab. 6, p. 63, and pp. 83–93. Regulations on fulling *saies* can be found in the drapery *keure* for the very small town of Aires, dated 1358–9: in Espinas and Pirenne, *Recueil de documents*, I, no. 10, p. 29. An undated textile tariff for Aalst, in *Ibid.*, I, no. 19, pp. 43–44, probably drafted sometime in the fourteenth century, does refer to say-like serges: 'die van binnen Aelst moghen saergen binnen doen weven'; but there is no justification in these texts for the recent assertion, in Stabel, *De kleine stad*, pp. 126–7, that these *saergen* were woven from Spanish (or Scottish) wools.

⁴⁰ That also explains why, during the later fourteenth and fifteenth centuries, the major Flemish and Brabantine draperies were able to continue selling their fine woollens for up to three times the prices of English broadcloths. See tab. 2, and sources cited in nn. 10–12 and 38 above; and also Munro, 'Urban regulation', pp. 41–52; Munro, 'Symbiosis of towns and textiles', tab. 2, pp. 50–1; and text, pp. 40–58; and Munro, 'Medieval woollens: struggle for markets', pp. 228–324.

Perhaps the most dramatic and convincing evidence of this mid-fourteenth-century industrial transformation in the southern Low Countries was the rise of the so-called *nouvelles draperies*, some of whom subsequently survived, in the fifteenth century, only by resorting to that very new form of Spanish wools—the *merinos*. Often classed as ‘rural draperies’, these Flemish *nouvelles draperies* (*nieuwe draperie*) were in fact virtually all cloth producers in small towns (*smalle* or *kleine steden*). Most of them had earlier engaged in marketing those much cheaper and light fabrics of the *draperies sèches* or *légères*; and, following the path of the draperies in the three largest cities, known as the *drie steden* (Ghent, Bruges, Ypres), they also transformed their draperies in order to manufacture genuine heavyweight woollens of the *draperies ointes* (*ghesmoutte draperie*), indeed often in direct imitations of those produced by the *drie steden*. As table 1 shows, the composition, dimensions, and weights of their woollens were very similar to those luxury woollens manufactured in the Flemish *drie steden*.⁴¹ This table also demonstrates why the Flemish *nouvelles draperies* must never be confused with the ‘New Draperies’ of later Tudor and Stuart England, which, in fact, were transplanted offshoots of the subsequently resurrected Flemish *sayetteries*.⁴²

From almost the very moment that the upstart Flemish *nouvelles draperies* had shed their own origins as members of *draperies légères* (including *sayetteries*) to engage in manufacturing heavyweight luxury-class woollens, they found themselves subjected to military attacks from the *drie steden*, who, as early as 1314, had obtained bans from the Flemish counts that severely restricted cloth making within their urban jurisdictions (18–30 km).⁴³ Ypres proved to be the most relentless, because it was the most threatened by the most successful rivals, chiefly found in the nearby Leie (Lys) valley, above all: Poperinge, Wervik, Langemark, Comines (Komen), and Nieuwkerk (Neuve-Église).⁴⁴ In complaining to the count’s officials, the Ypres magis-

⁴¹ See also Munro, ‘Medieval woollens: struggle for markets’, pp. 249–62; tabs 5.7–5.8, pp. 312–16. From each of these woollen broadcloths, about three suits of adult-male clothing could be made.

⁴² Munro, ‘Origins of the English “New Draperies”’, pp. 35–127. See p. 476, below.

⁴³ Ghent had been the first Flemish city to receive a ban or privilege, in July 1314, from Count Robert de Béthune, severely restricting cloth making to cheap fabrics, with a limited number of looms and vats, within five comital miles (30 km) of city walls. In October 1322, his successor, Count Louis de Nevers granted both Bruges and Ypres similar comital bans, though restricting cloth making to within just 18 km of city walls. But already existing *franches villes* were excluded from the ban. During his reign, Louis granted or confirmed a number of charters to the following draperies: in particular, Hulst, Aalst, Warneton, Deinze, Lembeke, and Poperinge, most of whom sealed their woollens. See Espinas and Pirenne, *Recueil de documents*, III, no. 883, pp. 774–6; and no. 895, pp. 777–81; and Nicholas, *Town and countryside*, pp. 76–116, and 203–21. For the lead seals, see n. 7 above.

⁴⁴ When Ypres’ charter and ban were renewed in 1357, its aldermen (*schepenen*) complained ‘hoe dat men in vele steden ende doorpen alomme drapiert ghelike ende contrefaite lakene van vouden, van lijsten, van langhen ende van breeden, ende naer dat men drapiert in onse. voors[eiden] stede’. See Espinas and Pirenne, *Recueil de documents*, III, no. 895, pp. 777–81. In January 1373 (see the following note), Ypres complained that Poperinge was making cloths ‘up deselve langhe, breedde, ende lijsten van den lakene van Ypre, want bute lands men soude niet bekennen de lakene van Ypre onder de lakene van Poperinge’. See texts in De Pauw, *Ypre jeghen Poperinghe*, pp. 101, and also pp. 86–90, 105–15, 157–60.

trates frequently charged them with ‘counterfeiting the cloths made in our town, in the pleats, lists [selvages], length and breadth’, contending further, that ‘in foreign lands, no one can tell the difference between the cloths of Poperinge and those of Ypres’. When, in 1373, the Council of Flanders summoned Poperinge to defend itself against such charges, and against Ypres’ demand that Poperinge restrict its cloth making to the *gaernine ende onghesmoutte draperie*, producing just plain ‘dry’ worsted fabrics, the Poperinge drapers contended that if they were forced to do so, ‘not even one person in ten could be employed in trying to sell cloths of the *droghe draperie* [i.e. *draperie sèche*]’. They noted furthermore that they were certainly not the only ones in this predicament, listing a dozen other neighbouring draperies that had also ‘completely abandoned the *droghe draperie*’, and had switched to the *ghesmoutte draperie*, producing heavyweight fullled woollens. That list included all of the now prominent *nouvelles draperies*: Kortrijk, Diksmuide, Roulers, Comines, Warneton, Menen, Linselles, Bousbecques, Deinze, Dendermonde, and Oudenaarde (though it surprisingly omitted Wervik, one of the current leaders).⁴⁵

The evidence on later-medieval markets for textiles in Mediterranean and Baltic (Polish) markets helps to explain why the Flemish *drie steden* became so concerned about competition from the *nouvelles draperies*, for the latter were selling their ‘counterfeit’ woollens for about half the prices of those sold by the *drie steden* and the major Brabantine drapery towns.⁴⁶ Nevertheless, most of the *nouvelles draperies*’ woollens were generally more expensive than English broadcloths sold in these markets; and most were indisputably luxury products, as is clearly evident from a comparison of their relative domestic values in Table 2: particularly in terms of the very considerable number of days’ wages required for a master mason to purchase each type

For other documents on conflicts with Poperinge, see Espinas and Pirenne, *Recueil de documents*, III, pp. 122–26, 130–5, 139–53, 157–8, 166–8, and 169–222. For conflicts with Langemarck in 1327, 1329, 1342, 1348, see *ibid.*, pp. 9–14; for conflicts with Wervik (1359, 1368, 1373, 1392), see *ibid.*, pp. 419–24, 426–31; and for conflicts with Nieuwkerk (Neuve-Église), see *ibid.*, pp. 58–60. For a general history of the fourteenth-century *nouvelles draperies*, see Melis, ‘La diffusionne nel Mediterranea occidentale’, pp. 219–43, and Munro, ‘Medieval woollens: struggle for markets’, pp. 249–62.

⁴⁵ The outcome of the trial is not provided, in the texts given in De Pauw, *Ypre jeghen Poperinghe*, pp. 1–180; and in a condensed version in Espinas and Pirenne, *Recueil de documents*, III, no. 649, pp. 168–222. The Poperinge drapers, however, did not mention Wervik, Langemarck, Neuve-Église, or Estaires amongst those that had switched from the *droghe draperie* to the *ghesmoutte draperie*, though much evidence indicates that they too had done so by this era. In 1397, Wervik forbade its weavers to make any serge-type cloths: ‘dat gheen wever die vri wever es niet moet weven saergsen noch siegsen anders danne Wervicshe lakene’. Text in De Sagher et al., *Recueil de documents*, III, no. 554:104, p. 465. For evidence that Bergues-Saint-Winoc and Furnes had similarly switched their cloth production by the early fourteenth century, see Coornaert, *Hondschoote*, pp. 30, 46–7. For evidence that Estaires had produced only *sayes* and *cauches* in the thirteenth century, but genuine woollens thereafter, see Espinas *La draperie dans la Flandre française*, II, p. 838. For Diksmuide, see Espinas and Pirenne, *Recueil de documents*, II, pp. 85–6.

⁴⁶ See the various tables of cloth prices in: Munro, ‘Industrial Protectionism’, tabs 13.2–13.5, pp. 256–67; Munro, ‘Medieval scarlet’, tabs 3.4–3.12, pp. 40–52; tab. 3.13, p. 62; tab. 3.14, pp. 67–9; Munro, ‘Industrial transformations’, tab. 4.1, p. 142; Appendix 4.1, pp. 143–8; Munro, ‘Origins of the English “New Draperies”’, tabs 1–2, pp. 39–40; tab. 3, pp. 42–4; tabs 7–8, pp. 88–9; Munro, ‘Symbiosis of towns and textiles’, tab. 2, pp. 50–1; Munro, ‘Medieval woollens: struggle for markets’, tab. 5.10, pp. 318–24.

Table 2. *Prices of English and Flemish woollen broadcloths, in pounds sterling English and pounds groot Flemish in quinquennial means, 1351–55 to 1516–20: with the number of days wages for a master mason to buy one woollen broadcloth (Cambridge, Ghent, Wervik, Nieuwkerk), and the Flemish Composite Price Index (1451–75 = 100)*

Years	Part I: England					
	ENGLAND Cambridge prices of 1st quality broadcloths in £ sterling	ENGLAND No. of days wages for SE English Master Mason to buy one 1 st quality broadcloth: harmonic mean ^a	ENGLAND Cambridge prices of 2nd quality broadcloths in £ sterling	ENGLAND No. of days wages for SE English Master Mason to buy one 2 nd quality broadcloth: harmonic mean ^a	ENGLAND Mean values of cloth exports from all English ports in £ sterling	ENGLAND Mean values of cloth exports from all English ports in £ groot Flemish
1351–55						
1356–60						
1361–65	2.232	101.60	1.771	80.61		1.611
1366–70	2.437	113.55	1.933	90.09	1.751	2.240
1371–75	2.200	101.57	1.745	80.58	2.314	2.406
1376–80	2.430	115.77	1.928	91.85	2.161	1.974
1381–85	2.808	133.49	2.227	105.91	1.857	1.741
1386–90	2.140	101.56	1.698	80.58	1.694	1.471
1391–95	1.952	93.66	1.548	74.3	1.403	1.855
1396–00	2.033	97.40	1.613	77.28	1.536	1.542
1401–05	2.128	100.15	1.812	85.22	1.769	1.193
1406–10	2.160	89.05	1.989	82.29	1.501	1.178
1411–15	2.136	85.38	2.178	87.00	1.200	2.505
1416–20	2.100	84.00	1.855	73.98	2.402	1.860
1421–25	2.113	84.50	1.875	74.83	1.669	2.638
1426–30	2.423	92.71	1.970	78.72	2.299	2.308
1431–35	2.468	97.88	1.985	79.39		
1436–40	2.080	83.15	1.885	75.39	2.091	

Part I: England *ctd.*

	ENGLAND Cambridge prices of 1st quality broadcloths in £ sterling	ENGLAND No. of days wages for SE English Master Mason to buy one 1 st quality broadcloth: harmonic mean ^a	ENGLAND Cambridge prices of 2nd quality broadcloths in £ sterling	ENGLAND No. of days wages for SE English Master Mason to buy one 2 nd quality broadcloth: harmonic mean ^a	ENGLAND Mean values of cloth exports from all English ports in £ sterling	ENGLAND Mean values of cloth exports from all English ports in £ groot Flemish
Years						
5-year means						
1441-45	2.273	89.01	1.905	76.19	2.180	2.406
1446-50	2.502	98.06	1.815	72.10	2.243	2.476
1451-55	2.380	93.87	1.893	75.70	1.614	1.782
1456-60	2.758	109.25	1.985	79.39	2.111	2.313
1461-65	2.933	112.17	1.875	74.97	1.856	2.041
1466-70	3.375	129.44	1.830	73.18	1.866	1.881
1471-75	2.520	100.41	2.230	86.19	1.877	2.002
1476-80	3.400	135.05	3.000	120	2.385	3.044
1481-85	3.400	127.27	2.560	97.44	2.274	3.435
1486-90	3.380	126.50	2.660	103.50	2.427	4.605
1491-95	3.630	136.54	2.586	103.24	2.822	3.684
1496-00	3.493	132.03	2.514	100.47	2.271	3.332
1501-05	3.448	132.73	2.561	99.28	2.975	4.379
1506-10	3.408	127.47	2.570	99.66	3.502	5.155
1511-15	3.710	147.25	2.920	116.72	3.606	
1516-20	4.120	162.63	3.060	122.22		5.308

Table 2. *Continued*

Years	FLANDERS:		GHEENT		GHEENT		WERKIK		NIEUWKERK		NIEUWKERK	
	Composite Price Index: basket of consumables 1451-75 = 100		Price of first quality Ghent Dickedimen broadcloths in £ groot Flemish		No. of days wages for Master Mason to buy one woollen: harmonic ^a mean		Prices of first quality woollens ^b in £ groot Flemish		Prices of first quality woollens ^c in £ groot Flemish		No. of days wages to buy one woollen: harmonic mean ^a	
5-year means	126.295d groot Flemish											
1351-55	60.646		3.749		171.457							
1356-60	87.54		4.330		171.811							
1361-65	94.425		4.857		169.459							
1366-70	107.401		5.377		160.559							
1371-75	115.222		5.333		159.725							
1376-80	111.662		6.890		186.733							
1381-85	119.193		7.500		204.545							
1386-90	124.719		5.958		158.835							
1391-95	88.510		5.538		147.68		3.591					
1396-00	89.796		5.759		140.319		3.756		95.244			
1401-05	88.531		5.980		139.732		3.512		91.107			
1406-10	105.261		5.843		139.902		3.742		84.238			
1411-15	95.309		5.853		140.431		3.460		89.772			
1416-20	107.381		6.077		145.620		3.131		82.970			
1421-25	112.182		5.997		143.910		3.194		75.085			
1426-30	117.773		6.047		145.085		3.800		76.104			
1431-35	123.512		7.061		156.874		4.197		1.974		47.181	
1436-40	140.166		7.182		156.377		4.198		2.201		48.781	
1441-45	113.504		8.008		174.258		3.878		2.079		45.339	
1446-50	109.984		7.719		168.268		3.875		2.243		48.816	
1451-55	100.902		6.828		147.761		3.672		2.227		48.420	
1456-60	117.855		7.857		171.175		3.444		2.310		49.323	
1461-65	88.705		8.000		174.545		3.889		1.878		40.859	
1466-70	96.520		8.188		178.562		n.a.		2.291		49.630	
1471-75	96.017		8.690		189.568				2.009		43.832	
1476-80	117.213		9.063		197.580				n.a.			

Part II: Flanders <i>ctd.</i>						
FLANDERS:		GHENT		WERKIK		NIEUWKERK
Composite Price Index:		No. of days		No. of days		NIEPKERK
basket of consumables		wages for Master		wages to buy		No. of days
1451-75 = 100		Mason to buy		one woollen:		wages to buy
126.295d		one woollen:		harmonic		one woollen:
groot		harmonic ^a mean		mean ^a		harmonic
Flemish						mean ^a
		Price of first quality		Prices of first		Prices of first
		Ghent Dickedmen		quality		quality
		broadcloths		woollens ^b in £		woollens ^c
		in £ groot Flemish		groot Flemish		in £ groot
						Flemish
Years						
5-year						
means						
1481-85	156.853	10.998	237.068			
1486-90	184.511	16.914	n.a.			
1491-95	144.981	14.367				
1496-00	100.255	14.667				
1501-05	n.a.	14.667				
1506-10		14.130				
1511-15		13.000				
1516-20		13.13				

Notes: *a* the harmonic mean is the reciprocal of the arithmetic mean of the reciprocals of the individual numbers in a given series (here: five years). See Mills, *Statistics*, pp. 108-12, 401.

b Wervik: a Flemish *nouvelle draperie* that continued to rely on English wools until the 1460s.

c Nieuwkerk (Neuve-Eglise) and Niepkerk: Flemish *nouvelles draperies* that adopted or switched to Spanish *merino* wools from the 1420s. Average prices for both woollens, each year, in the Bruges market.

Sources: Cambridge cloth prices: Archives of the British Library of Political and Economic Science (London), Phelps Brown Papers Collection, Box Ia.324; Rogers, *History of Agriculture and Prices*, vol. I, 587-92; Wages for master masons in south-eastern England: Phelps Brown and Hopkins, 'Building Wages', pp. 195-206; English cloth export values: National Archives (P.R.O.), King's Remembrancer Exchequer, Particulars Accounts: Customs, E.122/139/4, 139/7-8, 141/4. 141/21-22. 2-9/1, 141/25, 140/62, 141/35-36, 209/8, 141/38, 142/1, 142/3, 142/8, 142/10-12, 143/1, 209/2 (for Southampton); E.122/76/13, 74/11, 77/4, 73/23, 73/25, 194/14-18, 78/7, 79/5, 81/2, 83/2; and Lord Treasurer's Remembrancer Exchequer, Enrolled Customs, E.356/19-24; Exchange rates: values of English pound sterling in Flemish pounds groot: Munro, 'Bullion Flows', Table 10, pp. 148-53; Flemish Composite Price Index and wages (Bruges): Munro, 'Wage Stickiness', tab. 8, pp. 249-50; tab. 10, pp. 252-53; Ghent cloth prices: Stadsarchief Gent, Stadsrekeningen, Reeks 400: pp. 34-176; Bruges wages: for master masons; and cloth prices for Wervik, Nieuwkerk, and Niepkerk: Stadsarchief Brugge, Stadsrekeningen, 1349/50 to 1520/21; Algemeen Rijksarchief België, Rekenkamer, nos. 32,561-564.

of woollen broadcloth—sometimes almost a year's annual wage income (for 210 days), for a Ghent *dickedinnen*.

But this table is somewhat deceptive in suggesting that the values of later-medieval English broadcloths (second or even first quality) sold in Cambridge and those of Wervik woollens sold in the Bruges market were roughly comparable, when expressed in the number of days' wages required to buy each of them. For, in fact, real wages—the purchasing powers of the money wage (in silver coin)—in south-eastern England were then generally far below those in Flanders: fluctuating between a low of 45 per cent and a high of 68 per cent of that for a Bruges master mason in the later fourteenth and early fifteenth centuries; and between 53 per cent and 79 per cent of the Bruges mason's real wage, from the 1420s to the 1480s (when individual wage data cease in the Bruges city accounts).⁴⁷

VI

As far as this article is concerned, the chief result of this industrial re-orientation in the Low Countries' textile production was an increasing dependency on the finer English wools, which were clearly the *sine qua non* requirement for luxury woollens. The economic consequences of that dependency, for both the *nouvelles draperies* and for the history of the Spanish wool trade, must now be examined and explained.

As noted earlier, however, medieval England produced a wide variety of wools, from very fine to very coarse.⁴⁸ In a classic study, Bowden contended that, because (in his view) medieval England had lacked distinctly defined sheep breeds, the very finest wools, with very short-stapled and curly fibres, were therefore essentially the consequence of environmental factors, chiefly a combination of a moist, chilly climate and sparse feeding to be found: first, in the Welsh Marches of Herefordshire (Leominster, especially) and Shropshire; and, for the second-best qualities, in the Cotswolds district of neighbouring Gloucestershire, Worcestershire, Oxfordshire, and Berkshire. The third-ranking wools, but still of high quality, were found in the Lindsey and Kesteven districts of Lincolnshire, in the north-eastern Midlands; and their fineness was evidently the product of sparse pastures in over-grazed open (common) fields.⁴⁹ Indeed, sheep breeding would have been difficult to achieve in the open-field husbandry of the later-medieval Midlands, with the intermingling of peasant flocks on both pastures and the post-harvested fields of the arable. In the thirteenth

⁴⁷ Munro, 'Builders' wages', pp. 1041–66. The purchasing power of the mason's wage in terms of textiles is expressed in quinquennial *harmonic* means: explained in tab. 2, n. (a).

⁴⁸ See Munro, 'Wool price schedules', pp. 118–69; and above, nn. 11–12.

⁴⁹ Bowden, 'Wool supply', pp. 44–58; Bowden, *Wool trade*, pp. 1–76. Bowden also stated that medieval sheep had at least two coats, containing wool staples of varying lengths and finenesses, so that these environmental factors would have given the short-stapled fibres predominance in the fleece. He also contended that the sheep that produced such wools were very small animals, with very light fleeces, far smaller and lighter-fleeced than those of the eighteenth century. For the current debate about the relative

century, good evidence indicates, however, that Cistercian estates were importing breeding rams for their demesne flocks, in their houses in the Welsh Marches (with the very highest priced wools), but also in Yorkshire, whose environmental conditions can not explain their very highly priced wools.⁵⁰ Considerably inferior and thus much cheaper wools came from other parts of the Midlands, while those from the north (Cumberland, Northumberland, Westmorland, Durham, Yorkshire North Riding), from East Anglia, and the south-west (Devon and Cornwall) were far too inferior to be used in the production of fine woollens. Evidence to substantiate these rankings, in terms of wool prices, can be found in several medieval English wool-price schedules.⁵¹

Evidence that the Flemish industrial reorientation from the 1330s had involved a strict reliance on the finer English wools alone also can be found in many guild documents from this period, some specifying only the very finest English wools. Thus a Bruges drapery *keure* from about this period stipulated that 'no one shall be permitted to make any Bruges cloth from any wools other than English wools, except for the production of *smalle lakene*' [i.e. the much cheaper small cloths].⁵² In 1456, Ghent, the second of the *drie steden*, reconfirmed a *keure* specifying that, its 'fine cloths called *dickedinnen*, and other cloths, that are woven and made within the city of Ghent', were to contain only 'Fine March and Middle March wools, fine Cotswolds, and Cotswolds-Berkshire wools and no others'.⁵³ Similar if less explicit regulations can be found in the Flemish drapery *keuren* of Ypres (c.1390) and Douai (May 1430).⁵⁴

importance of breeding (hereditary factors) and environment, see Postles, 'Fleece weights', pp. 96–103; Ponting, *Woollen industry*, p. 17; Ryder, 'History of sheep breeds', pp. 1–12, 65–82; Ryder, 'Wools of Britain', pp. 51–64; Ryder, 'Wools from antiquity', pp. 100–10; Ryder, 'British medieval sheep', pp. 16–28; Ryder, 'Medieval sheep and wool types', pp. 14–28; Ryder, *Sheep & man*, pp. 476–7 (who incorrectly attributes a supposedly 'erroneous' argument to me, concerning the role of environmental factors, rather than to Bowden, whom I was citing; and his statement is refuted by the passages from my publications, indicated in the following note). Ryder also states (p. 476) that the largest single component of available medieval wool samples, comprising 36 per cent of the total, were of the 'generalised medium type', rather than being truly short-stapled; but he does not give any convincing evidence of genuinely distinctive breeds.

⁵⁰ Munro, 'Wool price schedules', pp. 118–35; Munro, '1357 wool price schedule', pp. 217–19, and especially n. 9; Munro, 'Medieval woollens: textiles', pp. 186–91. See also Trow-Smith, *British livestock husbandry*, pp. 142–4, 161–2; Hartwell, 'Destiny of British wool', pp. 328–9.

⁵¹ Munro, 'Wool price schedules', pp. 118–69; and Munro, '1357 wool price schedule', pp. 211–19.

⁵² Delepierre and Willems, *Keuren de tous les métiers de Bruges*, p. 42: 'dat niemene en gheoorloft eenighe Bruchsche lakene te reedene danne van Yngelscher wullen, ute ghedaen smalle laken' [in the fullers' and weavers' *keuren*, as reconfirmed in 1408].

⁵³ Stadsarchief Gent, Reeks 93, reg. KK, fo. 103^v (which I have personally examined), reprinted, with different punctuation, in Boone, 'Nieuwe teksten over de Gentse draperie', pp. 1–61: 'up dmaecken ende drapieren van den finen lakene, gheheeten dickedinnen, ende andere lakenen, die men drapiert ende maect binnen der stede van Ghendt: eerst zal men maken de voorseide lakenen van fijnder maertse [Welsh Marches: Shropshire and Herefordshire] ende middelmaertse [Middle March] wulle, fijne cootswale [Cotswold], ende fine cootswale bartsiere [Cotswold-Berkshire], ende van gheender andere'. For the reissue of this same ordinance on 22 May 1546, see the texts in Lameere and Simont, *Recueil des ordonnances*, V, pp. 272–83.

⁵⁴ See Espinas and Pirenne, *Recueil de documents*, III, no. 792, pp. 633–8 (Ypres); and II, no. 380, p. 322 (Douai).

In neighbouring Brabant, a fifteenth-century *keure* from the Leuven drapery similarly stipulated that, at least for the production of its sealed woollens, only the better-quality English wools be used, and none worth less than 11 marks (£7 6s. 8d. sterling) a sack, clearly in the upper price range.⁵⁵ A Brussels drapery *keure* from this same period similarly required its drapers to make their traditional woollens (the so-called *lakenen van de drie staten*) only from 'March wools, or the best Cotswolds wools, or the best [Lincolnshire] Lindsey wools'.⁵⁶ In the county of Holland, to the north, the young cloth industry at Leiden (founded c. 1360), imposed the same ordinance for the production of its sealed woollens, in 1396, though possibly this was a confirmation of an earlier ordinance.⁵⁷ In 1418, the Leiden magistrates more specifically banned 'all Scottish, Newcastle, Flemish, and domestic woollfells or any wools whatsoever, that have not come from the English Staple', without mentioning any Spanish wools.⁵⁸

Similarly, most of the *nouvelles draperies* of the southern Low Countries, in imitating the finer cloths of the *drie steden*, necessarily also had to use at least some English wools to produce fabrics of convincing quality for European consumers, just as a medieval coin counterfeiter had to use some genuine gold or silver. Most of these *nouvelles draperies* had guild organizations and *keurboeken* containing drapery regulations, chiefly for quality controls, similar to those of the traditional urban draperies; and two of them, those for Wervik and Diksmuide, similarly had articles forbidding the use of any but good quality English wools.⁵⁹ Two others, for whom complete drapery *keuren* are lacking, have also been recorded as using only English

⁵⁵ Stedelijke Archief Leuven [SAL], no. 722, article 9, fo. 3^r (dated 19 January 1442 n.s.): 'en sel nyement egeen Inghelsche wolle te Loven mogen innebrengen onder elff merk [under 11 marks £7.333 sterling] te Calijs den Inghelsch sack . . .'. See also SAL, no. 1528, art. 2, fo. 86^v (24 June 1442); and art. 19, fo. 285^v (19 April 1466). In 1441–2, the Alien Hosting Accounts record Italian exports of English wools, chiefly from the Cotswolds, with an estimated average value of £8.294 per sack. National Archives (P.R.O.), King's Remembrancer Accounts, Various, E.101/128/30–31. See also Munro, 'Medieval woollens: struggle for markets', tabs 5.1–5.2, pp. 299–303.

⁵⁶ Stadsarchief Brussel [SAB], no. XVI: *Het Wit Correctieboek*, fo. 193^r (22 June 1443, reissued 20 March 1444): 'van Maertscher [March] wollen, of vander bester Cudzewoutscher [Cotswold] wollen, of vander bester Lindenzee [Lincolnshire Lindsey] wollen'. See also the *keuren*, for 27 January 1466, 16 November 1467, and 5 June 1497, in SAB, no. 1435, fos. 1^{r-v}, 30^v; and no. 1436, fo. 13^r. Some of these texts have been partially published in 'La "nouvelle draperie" à Bruxelles', pp. 143–67; Favresse, 'Actes relatifs à la draperie urbaine', pp. 1–100. Similar *keuren* requiring the use of these very same English wools are to be found in the neighbouring Brabantine drapery of Lier (dated 23 March 1448), in Van der Wee, 'Stadt Lier', pp. 148–9.

⁵⁷ Posthumus, *Bronnen*, I, doc. no. 12, pp. 20–1: 'so en moet nyement binnen Leyden enighe wol draperieren, dair men die laken af reken sel, dan Enghesche sacwol jof Enghelsche vachtwol [fleece-wool]'. This may have been a reissue of an earlier ordinance.

⁵⁸ *Ibid.*, I, no. 74:17 (Boek VII), p. 74. The English wool staple is the one established at Calais in 1363. The term *Casteelsche velle* refers to Newcastle woollfells, in England, not to Castile. This drapery *keure* was reconfirmed in 1423, 1434, and several times thereafter, in *ibid.*, I, no. 115, p. 132; no. 117, p. 133. In 1442, the Leiden drapery *keuren* also forbade the use of any wools cheaper than those from Lindsey (Lincolnshire): 'lager in den prijs dan Lysa-Mersche wolle'. *ibid.*, no. 1323, p. 147; no. 166, pp. 186–7. See also Munro, 'Wool price schedules', pp. 118–69; Munro, '1357 wool price schedule', pp. 211–19.

⁵⁹ De Sagher et al., *Recueil de documents*, III, no. 577, p. 521; and no. 586:195, p. 564 (for Wervik); II, no. 232, pp. 101–2 (Diksmuide). See nn. 151–5, below.

wools in this era: Kortrijk and Langemark.⁶⁰ Many others—for example Oudenaarde, Comines, Menen, and Estaires—while using good English wools for their best grade woollens, were also then using lower-quality English or Scottish wools or even, in some draperies, Flemish wools, for second- and third-grade woollens (possibly just for regional markets).⁶¹ Other factors that permitted them to sell their woollens for lower prices than those for the *drie steden*'s woollens were possibly simplified weaving and finishing techniques, much cheaper dyes, and certainly lower labour costs. But the largest component of production costs nevertheless was the wool itself; and the ordinances do not indicate that they ever used a lesser quantity of wool (per square metre of finished cloth).⁶² Nevertheless, this reliance on fine English wools was chiefly confined to production for export markets. Most draperies in the Low Countries also used a wide variety of other wools—principally Scottish, Flemish, and subsequently also, some Spanish wools—in weaving much cheaper textiles for the domestic market: the so-called *smalle lakenen*, which were generally unregulated and thus unsealed.⁶³

VII

The English government had not been loath to exploit the Low Countries' growing dependency on its country's finer wools in its fiscal policies, whose evolution subsequently provided many Low Country draperies—especially the *nouvelles draperies*—with by far their strongest incentive to switch from English to Spanish wools.

The initial taxation of English wool exports had begun much earlier, with the Edward I's Old Custom of 1275, which imposed a quite modest levy of 6s 8d per sack (364 lb. or 166.45 kg); then, by the New Custom of 1303, Edward increased the tax, but on alien exports only, to 10s 0d per sack. Subsequently, in September 1336, his grandson Edward III secured an additional 'subsidy' of 20s per sack, in order to finance his coming cam-

⁶⁰ See Espinas and Pirenne, *Recueil de documents*, III, pp. 3–16; Coornaert, 'Draperies rurales', pp. 60–96, esp. p. 72; and Coornaert, *Hondschoote*, pp. 190–1.

⁶¹ See Espinas and Pirenne, *Recueil de documents*, I, no. 118, pp. 265–9 (Oudenaarde drapery *keure*, of 1338, forbidding the use of *lamwulle*, but otherwise not specifying use of wools in the production of fine *dickedinnen* woollens); no. 121, pp. 294–7 (1387 Oudenaarde drapery *keure*, specifying the use of *bester inghelsche wulle*, or *scotscher wulle*, or *vlaemscher tidagher wulle*, without mixing them, while forbidding anyone using other wools to make sealed *raamlaken*; *ibid.*, II, no. 42, pp. 945–6 (Comines, 1390); De Sagher, *Recueil de documents*, II, no. 207, pp. 16–17 (Comines); vol. 2, no. 265, pp. 276–79 (Estaires); and III, no. 396, p. 37; no. 400, pp. 42–9 (Menen). See also Stabel, *De kleine stad*, pp. 124–41. The word *tidagher*, *tijdegher*, *tidich*, *tidin*, etc. means wool from the mature sheep (not lambs' wool), shorn at the appropriate season. De Poerck, *La draperie médiévale*, III, nos. 738–9, p. 158.

⁶² See tab. 2; and Munro, 'Medieval woollens: struggle for markets', tabs 5.7–5.8, pp. 312–15. See also Coornaert, 'Draperies rurales', pp. 90–1. At Aalst, in the mid-fifteenth century, master building masons and carpenters earned only 6d. *groot* Flemish per day, compared to (summer) wages of 10d and then 12d per day for such building craftsmen in Bruges. Algemeen Rijksarchief België, Rekenkamer, registers 31,440–44 (Aalst), and 32,494–97 (Bruges).

⁶³ See notes 7 (on seals), 8, 11 above and 83–9, below.

paigns in France, those that began the Hundred Years War. Shortly after, in March 1338, the crown increased the export duties to 33s. 4d. per sack, and, in November 1341, to 40s. 0d. for a total burden of 46s. 8d. per sack (50s. 0d. a sack for aliens), a rate that was periodically reconfirmed by subsequent parliaments.⁶⁴

Nevertheless, the chief tax burden was initially borne not by the overseas customers but by the English wool growers, in the form of lower prices.⁶⁵ In March 1363, in evident response to the complaints of landowners and tenants-in-chief, who dominated Parliament, Edward III established the Company of the Staple in the recently conquered French port of Calais, and decreed that henceforth all English wool exports to northern Europe were to pass through this Staple, while empowering the new Company to manage the sale of all English wools there. The obvious intention of this Staple organization was to ensure that the tax incidence would be passed more fully on to the foreign buyers; but, as some studies have revealed, the Staplers took almost three decades to become fully united and sufficiently effective as a cartel in achieving those goals.⁶⁶ In 1399, it should be noted, Parliament finally conceded that the very coarse and cheap northern wools could no longer be subjected to the high wool export taxes and the burdens of the Calais Staple requirements; and thus it permitted their export, on licence, directly from Berwick (and, subsequently also, from Newcastle), to Zealand and Flanders, and at the much lower export duty of 13s. 4d. per sack.⁶⁷

By the mid-1390s, when the denizen export duties on those English wools subjected to the Calais Staple had risen to 50s. a sack, the crown's fiscal policies were having a very deleterious effect on both English wool exports and cloth production in the Low Countries, chiefly because of the impact of monetary contraction and a stark deflation on the structure of wool export duties. While wool prices and the English price level fell about

⁶⁴ Gras, *English customs system*, pp. 59–89; Barnes, 'Taxation of wool', pp. 137–77; Unwin, 'Estate of merchants', pp. 179–204, and especially Ormrod, 'Crown and the English economy', pp. 149–83.

⁶⁵ See wool prices in T. H. Lloyd, *Movement of wool prices*, tab. 1, pp. 40–3; tab. 2, pp. 46–7; and Munro, 'Medieval woollens: struggle for markets', tab. 5.1, pp. 299–301.

⁶⁶ See Lloyd, *English wool trade*, pp. 193–256; Ormrod, 'Crown and the English economy', pp. 149–83; Munro, 'Anglo-Flemish competition', pp. 37–60. Up to the 1390s, the crown had undermined the Calais Staplers' ability to function as a cartel by allowing Italian and Spanish merchants to bypass the Staple in exporting wools directly by sea to the Mediterranean (1378); by granting other exemptions to ship wools directly to Middelburg and Dordrecht; by selling export licences; and by periodically removing the Staple from Calais (intermittently in 1369–76, in 1382–8, and 1390–2). From the 1390s, further steep increases in the alien export duty—up to 68s per sack by 1416—drastically reduced the aliens' share of wool exports—generally under 10 per cent in the early fifteenth century. See Munro, 'Medieval woollens: struggle for markets', tabs 5.1 and 5.3, pp. 299–301, 304–5.

⁶⁷ *Rotuli Parliamentorum*, III, 429, no. 87; and *Statutes of the Realm*, II, 112 (1 Hen. IV, c.3). This statute also confirmed the Italian's exemption, dating from 1378, from the Calais Staple, indicating that the Berwick exemption may have dated from then as well. For evidence on crown licences to permit the export of Scottish wools, and those from Westmorland, Cumberland, Northumberland, and Durham directly from Berwick and/or Newcastle free of the Staple, directly to Zealand (Middelburg) or to Flanders, see Munro, *Wool, cloth and gold*, pp. 54–5, 57, 72, 85–6, 91, 94–6, 100, 107, 109, 110, 115, 120, 140, 147, 160. See also nn. 12, 51, above.

30 per cent from the early 1370s, the wool export duties remained fixed and *specific* (rather than *ad valorem*), and thus constituted an ever-higher proportion of the 'real' wool prices—indeed, 50 per cent by the mid-1390s.⁶⁸ Consequently, these tax-burdened English wools were then responsible for as much as 70–75 per cent of the pre-finishing manufacturing costs of luxury woollen cloth production in the Low Countries.⁶⁹

An even more harmful consequence of English fiscal policies was to provide a very substantial, if quite unintended, advantage to English woollen broadcloth exports, because of the large gulf that developed between the 'real' export taxes on wool and those on broadcloths (made from the same fine wools, purchased domestically tax free). English cloth exports were first subjected to taxation in 1303, by the *Carta Mercatoria* and New Custom; but the tax, at 12d per standard broadcloth 'without grain' (kermes dye), applied only to aliens. Denizen exports were not taxed until Edward III's imposition of the Cloth Custom, in 1347, at 14d per standard broadcloth. Hanseatic merchants, citing the *Carta Mercatoria*, refused to pay anything beyond the 1303 New Custom, but other aliens accepted an increase that raised their export tax to 33d per broadcloth.⁷⁰ That higher rate thus allowed English and Hanseatic merchants to garner the lion's share of the cloth export trade—from 75 to 85 per cent of the total over the next half century.⁷¹ In the later fourteenth and early fifteenth centuries, the tax burden on denizen and Hanseatic cloth exports was only about 2.5 per cent, when the average export value was just £2.00 to £2.50 per cloth. That difference in export taxes gave the English cloth trade a cost advantage of about 25 to 30 per cent over those continental rivals who continued to use English wools exclusively.⁷²

⁶⁸ Mean English wool prices fell from £7.894 per sack in 1371–5 to £4.954 per sack in 1391–5, a drop of 37.2 per cent; the English composite price index (base 100.00, 1451–75) declined from a mean of 146.64 in 1361–5 to 106.33 in 1391–5, a drop of 27.5 per cent. The Flemish composite price index (base 100, 1451–75) fell from a mean of 115.22 in 1371–5 to 88.51 in 1391–5, a drop of 23.2 per cent. See Munro, 'Medieval woollens: struggle for markets', Tables 5.1, pp. 299–301; Munro, 'Bullion flows', pp. 97–126; Munro, 'Wage stickiness', pp. 213–26, tabs 4–5, pp. 236–42, tab. 8, pp. 249–50.

⁶⁹ Another consequence of the tax structure was to encourage or force their draperies to re-orient even further to ultra-luxury production by purchasing only the most expensive Staple wools, for which the *specific* tax burden was thus a proportionately smaller burden. See Munro, 'Industrial protectionism', pp. 229–67, especially tab. 13.2, p. 256 (Leuven, 1434: 76.2 per cent of pre-finishing costs); Munro, 'Medieval scarlet', tab. 3.12, p. 52 (Ypres, 1501: 51.9 per cent of total costs, 64.2 per cent of pre-finishing costs). See also Lloyd, *English wool trade*, p. 12.

⁷⁰ The *Carta Mercatoria* levied a rate of 2s. 0d. on each 'scarlet' (cloths dyed wholly in grain) and 1s. 6d. on each cloth partly dyed in grain; but very few of these very costly cloths were ever exported. The 1347 Cloth Custom, which also raised the export taxes on full- and half-grain dyed broadcloths, added 1s. 9d. to the existing 1s. 0d. tax on alien exports, to total 2s. 9d.. From 1347 to 1373, a further cloth-export duty, known as the 'subsidy of poundage', at 6d per pound value (2.5 per cent), was periodically levied; and in 1373 it was raised to 12d per pound (5.0 per cent). In 1410–11 it was abolished for Hansard and denizen merchants, and thereafter paid only by 'other aliens'. See Gras, *Early English customs system*, pp. 66–85; Carus-Wilson and Coleman, *England's export trade*, pp. 194–8. For grain-dyed cloth exports, see; Munro, 'Medieval scarlet', pp. 13–70; Munro, 'Industrial crisis', pp. 103–41.

⁷¹ See Munro, 'Medieval woollens: struggle for markets', tab. 5.4, pp. 306–7.

⁷² See nn. 65–9, and calculations in Munro, 'Anglo-Flemish Competition', pp. 37–60; Munro, 'Symbiosis of towns and textiles', pp. 38–9; 52–3.

The impact of the English fiscal policies on English exports and Flemish cloth production can be seen in the following statistics, for the period 1361–65 to 1396–1400. Quinquennial mean wool exports fell by 44 per cent—from 30,129.2 to 16,889.6 sacks—while mean broadcloth exports more than tripled, from 11,757 cloths to 38,775 cloths.⁷³ For the Flemish and Brabantine draperies of Ghent, Leuven, and Mechelen, we possess only the very imprecise indicators of the annual drapery tax farm sales, which undoubtedly exaggerate the fall, if the tax rates also fell. For this same period, the quinquennial mean value of the Ghent tax farm sales fell by 84.1 per cent; those for Leuven, by 73.8 per cent by one measure (in the silver-based *pond oude groot*, to 1391–95); 69.6 per cent by another (in Rhenish gold florins, from 1371–75 to 1396–1400). For the Mechelen drapery, these tax-farm indices fell by 40.0 per cent, but partly because the tax rates were evidently raised.⁷⁴ Part of this decline, but not all, reflects the consequences of plague and war-induced depopulation and other economic disruptions of the late fourteenth-century economy.⁷⁵

The initial Flemish response to this growing English threat, from as early as the 1350s, had been to ban all imports of English woollens (though not serges or worsteds).⁷⁶ Perhaps a more rational response would have been to seek out an alternative source of fine wools.⁷⁷ Evidently, however, no satisfactory alternatives to English wool were then available. The complex problem, therefore, is to ascertain precisely when Spanish *merino* wools did become available to the Low Countries as a substitute for English wools.

⁷³ See Munro, 'Medieval woollens: struggle for markets', tabs 5.3–5.4, pp. 304–7; Munro, 'Symbiosis of towns and textiles', tab. 1, pp. 42–3.

⁷⁴ Munro, 'Medieval woollens: struggle for markets', tabs 5.5–5.6, pp. 308–11; Munro, 'Symbiosis of towns and textiles', tabs 1–2, pp. 42–3, 50–1.

⁷⁵ From the Black Death era, the combined total of English woollensack and broadcloth exports (at 4.333 cloths per sack) fell by 27.9 per cent: from the equivalent of 120,349.12 cloths in 1346–50 to 111,963.31 cloths in 1396–1400. Munro, 'Medieval woollens: struggle for markets', tabs 5.3–5.6, pp. 304–11.

⁷⁶ On this Flemish cloth ban, see Munro, 'Bruges and the abortive Staple', pp. 1138–59; Munro, 'Industrial Protectionism', pp. 229–67; Munro, *Wool, cloth and gold*, pp. 7–9; and for the temporary bans issued in Holland and Brabant, in 1428, see pp. 68–9, and 94. For an alternative interpretation (in my view unconvincing), see Brulez, 'Engels laken in Vlaanderen', pp. 10–20. In June 1359, after the Hanseatic League launched a strong protest, the Flemish granted the League a formal but highly limited exemption to re-export English cloths via Sluis on the Zwin (outport of Bruges), provided that such cloths 'remain bound within the bales that they were packed in . . . and that they be re-exported from the Zwin, even though this be greatly harmful to the drapery of Bruges'. See Höhlbaum, *Hansische Urkundenbuch*, III, no. 430, p. 201.

⁷⁷ These statistics indicate that, contrary to the implicit expectations of the English crown, the demand for English wools was not so inelastic, certainly not as inelastic as the demand for salt in the French *gabelle*; but that does not indicate the availability of substitute wools. The demand for wool is derived from the demand for the finished product, i.e. woollen broadcloths; and for that product the English broadcloth trade was obviously providing an effective substitute for some but not all: not for those who still prized the superiority of Flemish and Brabantine woollens, and were willing to pay the price differential.

VIII

In the Low Countries, the first documented use of Spanish *merino* wools was about thirty years after the first recorded sales in Italy; and possibly this prolonged delay reflects a deep, long-held historic prejudice in northern Europe against the earlier non-*merino* Spanish wools, and indeed may explain why only cheaper, poorer-quality Spanish wools were initially employed in the early fifteenth-century Low Countries.⁷⁸ Certainly the reason for the delay does not lie in any lack of commercial relations with Iberia, which, despite ongoing piracy, grew strongly during the fourteenth century. By the 1330s, the Catalan merchants had become so numerous at Bruges that they were able to form a consulate there, one of the oldest; but they were not involved in any wool trade.⁷⁹ In 1343, the *Drie Leden* ['Members'] of Flanders granted Castilian merchants a charter of privileges, which was expanded into a full treaty in November 1348, and subsequently reconfirmed in April 1367 and June 1389. The only commodities specifically listed in these charters and treaties are wines, leather, and iron; and thus no Spanish wools were mentioned in any of the treaties.⁸⁰ In fact, not before the famous charter of commercial privileges that Duke Philip the Good of Burgundy (1419–67), as count of Flanders, granted the Castilian merchants at Bruges, on 11 October 1428 were Spanish wools finally mentioned; but by this time they had become a very prominent aspect of Spanish (Castilian-Basque) trade.⁸¹

In this era, Spanish wools were exported in a very wide variety; and most of those first used in the Low Countries were, as just indicated, of very low quality. Thus, the earliest recorded use of Spanish wools in this region is a drapery *keure* for relatively coarse and cheap woollens, dated July 1407, in the neighbouring French bishopric of Tournai;⁸² but shortly after, in 1410, the Tournai magistrates banned the use of such wools in tapestry weaving (a luxury product).⁸³ The second regional reference is found in the Oudenaarde Toll registers for 1413–16. Their data, recently published by Verroken, indicate that over 33 months Ghent shippers transported 101 sacks (or bales) of Spanish wool, along with 99 sacks 2 pokes of Scottish

⁷⁸ See above, pp. 436–8 and nn. 20–9.

⁷⁹ Biscayans can be found at Bruges from c.1230; and Catalans, from c.1250. See Maréchal, 'Colonie espagnole de Bruges', p. 5; Verlinden, 'Rise of Spanish trade', pp. 54–6; and also Phillips, 'Merchants of the Fleece', pp. 75–86; but this admirable essay has virtually no information on Flemish-Castilian trade in the fourteenth century.

⁸⁰ Gilliodts-Van Severen, *Ancien consulat d'Espagne*, I, pp. 8–13; Gilliodts-Van Severen, *Archives de Bruges*, II, no. 564, pp. 130–1; Finot, *Relations commerciales*, pp. 97–9, 126–7, 147–8; and Verlinden, 'Politique économique', p. 700.

⁸¹ Gilliodts-Van Severen, *Archives de Bruges*, IV, no. 970, pp. 496–8. See also Finot, *Relations commerciales*, pp. 159–60; and Verlinden, 'Politique économique', pp. 694–700.

⁸² For 'draps appelés vacques', an inferior woollen cloth with a weft 'composée des grosses laines d'Espagne et d'Alemaigne'; but later, the 1437 *keure* provides an indication of higher quality wools: 'sauqs de laynne d'Engleterre, du sacq d'Escoche, de chascun balle de laynne d'Espagne'. Texts in Dubois, 'Draperie de Tournai', pp. 144–65, 219–35, especially no. 175, p. 160; no. 248, p. 221.

⁸³ Verroken, 'Een Oudenaards tolregister', p. 101, citing Soil, 'Tapisseries de Tournai', p. 369.

wools, 16 sacks of *schoorling*, 2 sacks (or packs) of *drommen*, 73 sacks of *hoedwul*, and 41 sacks 3 pokes of other unnamed wools, up the Scheldt river, for delivery to Oudenaarde or Tournai (or so Verroken contends).⁸⁴ The latter three commodities in this list were all waste and other grossly inferior wools, whose use, as noted earlier, was always forbidden in the regulated draperies for manufacturing sealed woollens, but permitted in the production of unregulated, unsealed *smalle lakenen*.⁸⁵ Thus, while Bruges had for so long resolutely ensured that only the finest English wools were used in producing its sealed woollens, certainly until 1533, a civic ordinance dated 1434 permitted the use of Flemish, Scottish, and Spanish wools in the manufacture of the town's unregulated, unsealed *smalle lakenen* (narrow and short).⁸⁶ Similarly, while the Ghent drapery had also long stipulated that its *dickedinnen* and other fine sealed woollens be woven exclusively from the finest English wools (March, Cotswold, Berkshire), 'and no others', a civic ordinance of February 1462 also authorized the production of *smalle lakenen* from *plootwulle*, *hoedwulle*, and also lambs' wool (*lamwulle*).⁸⁷ Verroken has also found records in Ghent of purchases of Spanish wools in 1410–12, 1434, and 1467–68. But those buying them were also, variously, purchasers of *hoedwulle*, making caps and hats, or purchasers of very cheap English wools from Zealand (i.e. those exempted from the Calais Staple), or carpet weavers and linen weavers—but none documented as members of the regulated drapery.⁸⁸ Furthermore, the actual tariffs or tolls levied stipulated in the Oudenaarde Toll Registers for 1413–16 and c.1430–50 specify both English wool (16d per sack) and Scottish wool (8d per sack), but not Spanish wools *per se*.⁸⁹

⁸⁴ Verroken, 'Een Oudenaards tolregister', pp. 73–5, 86–9, 100–6; and tab. 4, p. 103. In 1411–15, an annual average of 12,633 sacks of English wool were shipped to Calais: Munro, 'Medieval woollens: struggle for markets', tab. 5.3, p. 304. Verroken (pp. 120–21) cites a reference from the Oudenaarde *stadsrekeningen* of 1408–9 concerning cloth woven from 'inghelsche end van vlaemscher wullen also van scotschen wulle', but Spanish wools are not mentioned.

⁸⁵ See nn. 21 (for *hoedwulle*) and 61, 92, 108, 115 (for *lamwulle*, *peekwulle*, etc.). Verroken defines *drommen* as *afwol* (waste wools). See De Poerck, *Draperie: Glossaire flamand*, p. 34, no. 140 ('van drommen, van waterwulle, van vlocken, van scoorlyngen of tiertheyne, verbuert'); p. 56, no. 247 ('sowie die Spaensche wulle tapt, jof hoedewulle': wool for making hats and caps); p. 131, no. 610 (*schoorlinc*, *schuerlinc*: waste-wools (*déchets*) from the fulling, shearing, and other finishing processes).

⁸⁶ Vermaut, 'Bruges', pp. 189–90, 200 (citing 'Renouvellement de la loi', register 1422–42, in *Stadsarchief Brugge*). For ordinances requiring the exclusive use of English wool in the Bruges drapery's regulated, sealed woollens, *ute ghedaen smalle laken*, see n. 52 above (fourteenth century *keure* renewed in 1408; and for the 1533 stipulation that only English wools be used in sealed woollens, see n. 170 below).

⁸⁷ Boone, 'Nieuwe teksten', p. 42: 'anders de wardere ende ordonnantie van den smalle lakenen, die men maecken mach van plootwulle, lamwulle, ende schuerlinc, naer tinhouden van der lester ordonnantie'. For the 1456 ordinance on the manufacture of *dickedinne* and other sealed woollens, see p. 449 and n. 53, above; and nn. 110–11 below.

⁸⁸ Verroken, 'Oudenaards Tolregister', pp. 108–11. On such very cheap English wools, exempted from the Calais Staple, see nn. 12 and 67 above. For *hoedwulle*, see nn. 85 and 21 above; n. 92, below.

⁸⁹ *Ibid.*, pp. 87–8 and App. 2B, pp. 142–3. Verroken (p. 102) deduces that the tariff of 2d. *parisis* for *elcke bale wullen* refers to Spanish wool, because that is the rate at which those shippers handling such wools were taxed. But if so, such evidence indicates how cheap and inferior was their quality.

The important question to be resolved, therefore, is when true and much higher quality Spanish *merino* wools were first used in the Low Countries' export-oriented and thus, regulated, draperies, for the production of fine sealed woollens: in place of or mixed with fine English wools. Of far less importance for this article is their initial use in the manufacture of cheap, unregulated *smalle lakenen* for local and regional markets, even if such production may have exceeded in volume (if not value) that destined for export markets. Quite possibly, some Spanish *merino* wools may have been employed in some other Flemish draperies, in some fashion, around this time. For in 1420—just after Duke Philip of Burgundy and Henry V had contracted a formal anti-French alliance—a petitioner in the English Parliament had complained that the Flemish were violating a long-standing 'agreement' not to permit the use of Spanish wools so long as England did not contest the Flemish ban on English cloth imports; and it seems unlikely that the petitioner would have made such a claim without some factual foundation on the use of these wools.⁹⁰ Ninove may have been one of the first of the Flemish *nouvelle draperies* to use them, in some form, according to a brief reference in the town's *stadsrekeningen* of 1419.⁹¹ The contention, however, that Spanish wools were being used, around this time, in the Aalst drapery, for manufacturing sealed woollens is unfounded.⁹²

The first extant drapery *keure* from a *nouvelle draperie* that explicitly permitted the use of Spanish wools in regulated, sealed woollens was issued by the small *nouvelle draperie* of Estaires, in the Leie (Lys) valley, in September 1428, and thus shortly after the aforementioned Flemish–Castilian trade treaty in which Spanish wools figured so prominently. While reserving and specifically requiring only 'les meilleures laines d'Engleterre' for the best woollens, drapers were free to choose either 'la second laine d'Engleterre, ou de la meilleur d'Escoce, d'Espagne, ou de pays [Flanders]' for their other woollens.⁹³

The next specific evidence for the use of Spanish wools comes very shortly after: for the Leie valley *nouvelle draperie* of Comines (Komen), in August 1430, when Hanseatic merchants informed its drapers that 'they would not buy any of their cloths made from Spanish wools'. This dispute may have

⁹⁰ *Rot. Parl.*, IV, no. 16, p. 126 (8 Hen. V); and no. 29, pp. 146–67 (9 Hen. V). The aim clearly was to force a revocation of the Flemish ban on English cloth. See n. 76, above. In reply, the bewildered king promised to 'serche' for such an agreement, one that was never produced.

⁹¹ Stabel, *De kleine stad*, p. 127, n. 33, but citing only Vangassen, *Ninove*, I, p. 143.

⁹² Stabel, *De kleine stad*, pp. 126–7, citing an undated but evidently early fifteenth-century drapery *keure*: 'dat men in de raemlakenen vander hoochster prijse doen sal gheen Spaensche wulle, lamswulle, Scotsche wulle, noch peelwulle' (cited from De Potter and Broeckhart, *Geschiedenis van Aalst*, II, p. 424). That all these named wools were forbidden in the manufacture of Aalst's finest sealed woollens does not mean that they were used in other sealed woollens, for export—for no *keure* is cited as proof, and, as noted earlier, *lamwulle* and *peekwulle* were forbidden in all sealed woollens in medieval Flanders; but, as at Bruges and Ghent, they may have been used in the manufacture of unregulated *smalle lakenen*. For *peekwulle*, also known as *plootwulle*, see De Poerck, *Draperie: Glossaire flamand*, pp. 104–5, no. 489: *pelade*: wool shed from the fleece, sometimes from disease (e.g. alopecia). See nn. 85–8 above.

⁹³ Text in De Sagher et al., *Recueil de documents*, II, no. 265, pp. 276–80 (18 September 1428). See also Espinas, 'Draperie rurale', pp. 1–44.

concerned Hanseatic demands for exclusive rights in marketing such woollens in their Baltic zone, rather than any complaints about the quality of the cloth; and, if so, that would indicate Comines' current dependence on Spanish wools.⁹⁴ Subsequently, in February 1451, the Comines drapery issued a new set of industrial *keuren*, which stipulated, as had earlier ones, that its first-linen woollens were to be made exclusively from 'fine English wools, and no other'; but the *keure* now added a series of second-grade woollens, named *breede Scotsche lakenen*, 'which we have just newly begun to make at Comines . . . from diverse kinds of wools, such as English, Scottish, Flemish, Spanish, and Zuider Zee [i.e. Kampen] wools', and in that order.⁹⁵

Coincidentally, shortly before Duke Philip the Good had ratified the Flemish–Castilian trade treaty, he had also bestowed upon the now declining Flemish drapery town of Ypres a seemingly signal victory against the upstart *nouvelles draperies* in its castellany in this very same region, along or near the Leie valley. For, in March 1428, he once again prohibited Nieuwkerk (Neuve-Église) and a dozen nearby villages from any form of cloth making, except for the production of cheap *douken*, from local wools.⁹⁶ Despite some subsequent fines, however, this decree proved impossible to enforce.⁹⁷ From this very era, the draperies of Ypres, Ghent, and Bruges suffered an even more rapid decline, while many of the *nouvelles draperies* commenced a more rapid phase of expansion, specifically because they, and they alone, did resort to Spanish wools.⁹⁸

Certainly one of the most prominent was the very same Nieuwkerk drapery, which, since the 1428 ducal ban on its cloth making, had been

⁹⁴ De Sagher, *Recueil de documents*, II, no. 235:4, p. 62: 'dat zy gheen lakenen coopen souden van Spaenscher wulle ghemaect'; and 'eenen bode van den Oosterlinghen . . . van dat men ghene Spaensche wulle drapiëren zoude'. This threat was repeated in 1438: *Ibid.*, II, no. 235:10, p. 64. For subsequent Hanseatic policy in commissioning production of cloths woven from Spanish wools for their exclusive use, see below pp. 459–60 and nn. 105–9.

⁹⁵ *Ibid.*, II, no. 220, pp. 30–32: for the first line woollens, 'Inghelsche lakenen, breede ende smaele, sal men moeten [maken] van goede, fyne Inghelsche wulle ende van gheen andre wulle'; but, for second line woollens, see the *keure* 'van anderen lakenen die men maken mach van diversche manieren van wullen, als Inghelsche, Scotsche, Vlaemsche, Spaensche, ende Zuudersche [Zuider Zee]'.

⁹⁶ *Ibid.*, I, no. 1, p. 107 (10 March 1428); and II, no. 213, pp. 23–24. The ban was specifically directed against: Nieuwkerk, Niepkerk, Zuidberkin, Nordberkin, Eeke, Godeswaersvelde, Caestre, Hondegem, Steenvorde, Steenwerk, Meteren, Boescepe, and Flêtres.

⁹⁷ Ypres continued, in vain, to have the decree enforced, even as late as the 1540s. See Diegerick, *Ypres*, III, pp. 138–9 (1429), 141 (1429), 144 (1431), 192 (1446); IV, pp. 61–72 (1483), 75 (1484), 101–09 (1485); V, p. 607 (1501), 8–13 (1502), 30–32 (1506); 36–37 (1507); 51 (1509); 96 (1515); 250 (1541); and De Sagher et al., *Recueil de documents*, I, pp. 7–24 (1428–31, 1443, 1446), 29–54 (1483–5); 63–4 (1485), 71–5 (1485), 75–7 (1501), 97–8 (1545); III, pp. 102 (1455), 93–4 (1541), 141–2 (1545). Note that the Ypres archives were completely destroyed during the First World War.

⁹⁸ For a comprehensive overview of cloth production and marketing by the small-town *nouvelles draperies* from the 1420s to the 1490s, see Stabel, *Kleine stad*, pp. 89–100; and for estimates of cloth production from both traditional and the newer draperies, see *ibid.*, p. 168, table 1; and Stabel, 'Décadence ou survie?', pp. 63–84; and Stabel, 'Een kwantitatieve benadering', pp. 113–53. Verroken, 'Oudenaarde tolregister', p. 115 (tab. 9) has documented the recovery of Oudenaarde's cloth production: from 2,985 woollens in 1435–40 to 3,705 woollens in 1450–2, when it had resorted to Spanish *merino* wools.

steadily increasing its cloth sales in the Bruges market.⁹⁹ In 1449 a decree of the Parlement de Paris observed that its woollens, as well as those of Nieppe (Niepkerk) and Eecke, were ‘pannos ex lanis de Yspania, de Scotia, et de patria Flandrie’.¹⁰⁰

Other records, concerning Flanders’ foreign trade, indicate the steadily growing importance of Spanish wool by the mid-fifteenth century. In 1441, the Castilian merchants, led by Burgos, established their own separate consulate at Bruges,¹⁰¹ and in August 1452, the Biscayan merchants followed suit.¹⁰² A few months earlier, in March, the Bruges magistrates had complained that the ducal toll-farmers were now demanding a higher tax on Spanish wool imports.¹⁰³ In the following November (1452), the Spanish merchants at Bruges forwarded a petition to the Hanseatic Diet at Lübeck to request an end its current embargo on Flemish trade, because that embargo had already caused serious injury to their own commerce.¹⁰⁴ When the Hanseatic merchants did restore their Flemish trade at the Bruges *kontor*, in August 1457, they were eager to buy as many Flemish cloths woven from Spanish wools as possible.¹⁰⁵ For example, in June 1458, several Hanse merchants stationed at Riga, in Livonia (modern Latvia), informed their colleagues in both Lübeck and the Bruges *kontor* that the Russians were now buying very few of the traditional woollens from Ypres, ‘because English cloths can now be had here so cheaply’; but that Poperinge cloths, evidently made from Spanish wools, were also selling well.¹⁰⁶ According to other documents, Poperinge woollens accounted for 23.1 per cent of the 1,560 woollens on board one Hanse ship bound for Reval (modern Tallin, in Estonia) in 1469 (each cloth averaging 21.0 metres long by 1.40 metres wide).¹⁰⁷ Subsequently, in 1483, the Hanse *kontor* at Bruges offered a contract to the Oudenaarde drapery to make woollens of Spanish wool, ‘in the style of those from Poperinge’, to be sold exclusively to Hanse merchants; and indeed the contract specified that the woollens (*raemlaken*)

⁹⁹ For records of such cloth sales at Bruges, from 1426, see the Bruges *stadsrekeningen*, in Algemeen Rijksarchief België, Rekenkamer, register no. 32,480. The town itself purchased such cloths to garb the civic musicians (‘trompers ende pijpers’).

¹⁰⁰ De Sagher et al., *Recueil de documents*, III, no. 593, p. 600 (1449). See also the drapery *keure* for Nieuwkerk, dated 18 November 1462, in *ibid.*, III, no. 420, pp. 112–20.

¹⁰¹ Vicens Vives, *Economic history of Spain*, pp. 267–68; Van Houtte, *Bruges*, p. 65. For Spanish trade in this period, see also Phillips, ‘Merchants of the fleece’, pp. 77–8.

¹⁰² Gilliodts-Van Severen, *Consulat d’Espagne*, pp. 50–2. This decree contains what is evidently the first recognition of the Castilian consulate, though its establishment was explicitly permitted in the 1428 treaty (see n. 81).

¹⁰³ Gilliodts-Van Severen, *Tonlieu de Bruges*, II, no. 2687:10, pp. 78–9.

¹⁰⁴ Gilliodts-Van Severen, *Etaple de Bruges*, II, no. 922, pp. 10–11. For the embargo of 1451–57, see also Daenell, *Deutschen Hanse*, I, pp. 401–06, 419–24; Dollinger, *German Hansa*, pp. 300–02.

¹⁰⁵ Gilliodts-Van Severen, *Etaple de Bruges*, II, no. 991, pp. 69–70.

¹⁰⁶ Stein, ‘Handelsbriefe aus Riga’, no. 10 (4 June 1458), pp. 90–91; no. 16 (6 June), p. 101; no. 18 (6 June), pp. 105–6. For other references to Poperinge cloths, see no. 1, p. 73; no. 9, p. 88; and also De Sagher et al., *Recueil de documents*, III, pp. 257–9.

¹⁰⁷ Cited in Amman, ‘Deutschland und die Tuchindustrie’, pp. 50–7. Many of them were being purchased by the court of the Grand Duke of Moscow.

were to be made solely from good, mature Spanish wools.¹⁰⁸ Various other documents from this era, or even earlier, indicate that Hanseatic merchants had made similar contracts 'to drape the said Spanish wools into cloths solely for the *Oosterlings*' with various other *nouvelles draperies* (i.e. besides Poperinge and Oudenaarde): Comines, Warneton, Dendermonde, Aalst, Kortrijk, Wervik, Menen, Geraardsbergen, Bailleul, Ninove, and Tourcoign.¹⁰⁹

From the mid to later fifteenth century, the use of Spanish wools has also been documented for the following Flemish *nouvelles draperies*, chiefly in the south-west (Leie valley region): Armentières, Nieppe (Niepkerk), Meteren, Godewaersvelde, Eecke, Flêtre, Eeklo, Dranoûter, Kimmel, Wulvergem, and Tournai.¹¹⁰ A Ghent tax register of 1467–68 indicates that its merchants were selling Spanish wools, along with English and Scottish wools in its castellany, evidently to nearby *nouvelles draperies* as well as (possibly) to those making unsealed *smalle lakenen*, caps, hoods, carpets, etc., within the city;¹¹¹ but there is no evidence that Ghent's regulated drapery itself was then using Spanish (or Scottish) wools for the production of sealed woollens.¹¹²

Otherwise, in the Burgundian Low Countries, during the entire fifteenth century, the use of Spanish wools was authorized in only two of the major traditional drapery towns, both in Brabant. In June 1443, the magistrates of Brussels issued the *keuren van der nuwer draperie* ('regulations for the new drapery'), which authorized drapers to make an entirely new type of woollen, called *bellaerts*, to be woven from 'domestic, English, Spanish, Scottish, and other good wools'.¹¹³ But this 'new drapery' was to be kept strictly apart from the traditional drapery, manufacturing in particular those *lakenen van*

¹⁰⁸ Höhlbaum, *Hansische Urkundenbuch*, X, no. 1050, p. 639; De Sagher, *Recueil de documents*, III, p. 257. Verroken has also published the text of the contract contained in the Stadsarchief Oudenaarde: 'Oudenaards tolregister', Appendix 3, pp. 145–50: 'men de raemlakenen niet drappieren en mach *dan van goeder Spaenscher tijtwulle*', reiterating as well the ban on using any *lamwulle* or *plootwulle* (p. 146). For the term *tijtwulle*, see nn. 61, 85, 92, above.

¹⁰⁹ Documents in Ropp, *Hanserecesse, 1431–1476*, IV, no. 444:4, p. 312 (assigned a 'probable' date of 1455); Gilliodts-Van Severen, 'Relations de la Hanse teutonique', no. 15, p. 216; no. 18 (dated 1512, but referring to the previous century); De Sagher, *Recueil de documents*, III, pp. 257–9.

¹¹⁰ De Sagher et al., *Recueil de documents*, I, no. 102, p. 36; III, p. 2; no. 396, p. 37; no. 420, pp. 112–20; no. 581, p. 527; no. 587, pp. 582–5; no. 597, pp. 611–16; Diegerick, *Archives d'Ypres*, IV, no. 1037, pp. 9–10; Dubois, 'Draperie de Tournai', pp. 145–65, 219–35; Coornaert, *Hondschoote*, p. 191. Haubourdin was probably also using Spanish wools in this period; but its first extant *keure*, which does list Spanish wools, dates only from 1532. See De Sagher et al., *Recueil de documents*, III, no. 275, pp. 304–5.

¹¹¹ Boone, 'Nieuwe teksten', doc. no. 4, pp. 43–53: assize on 'Inghlescher ende Schotscher wullen, Spaensche balen, vliezen, hoetwullen, lamwullen and ghewasschen wulle'. See nn. 87–88 above.

¹¹² Boone has also published an undated Ghent drapery *keure*, which he believed was issued in the 1450s: one that clearly authorized the use of Spanish wools. Having myself examined this document in the Stadsarchief Gent, reeks 93, register KK, fos. 88^r–103^v, written in the distinctive sixteenth-century script, and bound in a cartulary produced in the mid 1540s, I believe that it is instead the well-known drapery *keure* of 1546, published in Lameere and Simont, *Receueil des ordonnances*, V, 272–83. I have provided a lengthy rebuttal of Boone's views and a defence of my dating in Munro, 'Origins of the English "New Draperies"', n. 33, on pp. 97–8. See also nn. 87–8 above.

¹¹³ Stadsarchief Brussel, no. XVI (Het Wit Correctieboek), fo. 183^r; and no. 1435, fo. 1^r (January 1466); see Favresse, 'La "nouvelle draperie" à Bruxelles', pp. 143–67 (see n. 56 above).

de drie staten, which, as noted earlier, were to be woven exclusively from the very best English wools.¹¹⁴ In Leuven, Brabant's other major and traditional drapery town, no indications for the use of Spanish wools can be found before 1481, at the earliest, and conclusive proof is not available until 1513. Then Spanish wools were to be used on terms of equality with the English for all woollens, except for the very finest *raemlaken*.¹¹⁵

IX

These fifteenth-century industrial changes in the use of wools for cloth manufacturing raise two interesting questions. First, why did so many of the *nouvelles draperies* decide to switch, in whole or just in part, to Spanish and Scottish wools, so suddenly, from the 1420s? And conversely, why did the major traditional urban draperies—with the partial exception of the Brabantine—not follow suit?

The available and abundant documentary evidence strongly indicates that radical innovations in English monetary and fiscal policies provided the catalyst for this change in the Low Countries' wool usages, in the form of the Calais Staple Partition and Bullion Ordinances of 1429. The Bullion Ordinances themselves were in response to recent Burgundian monetary-fiscal policies, in the form of drastic coinage debasements of both the gold and silver Flemish coinages to finance Duke Philip the Good's various wars. Unquestionably these policies had been very successful, by the late 1420s, in attracting much bullion to Burgundian mints, producing very large volumes of both gold and silver coins, just when the English mint outputs began to fall, and especially at Calais. A further provocation came from Burgundian counterfeit imitations of the prized English gold *noble* coins.¹¹⁶ Thus, to remedy this perceived loss of bullion, indeed a shortage at the Calais mint to provide sufficient coinage for the garrison's wages, the 1429 parliamentary statute imposed three changes in the Staple's payment regulations: first, to raise wool prices (reputably, by one third); second, to sell all wools only for 'ready cash in hand', in English coinage, forbidding any

¹¹⁴ See p. 450 and n. 56 above.

¹¹⁵ Stedelijke Archief Leuven [SAL], no. 722 (*keuren* from 1481 to 1528, not all of which are properly dated), fo. 47^v–48^v (*lakenen van V loyen*); no. 2712 (1513), fo. 57^r; fo. 223^r (1556). Much earlier in the fifteenth century, however, in May 1415, the Leuven magistrates had officially authorized the establishment of a 'new drapery', using domestic and French wools, as well as English wools; but no mention is made of any Spanish wools. SAL, no. 1524, fo. 287^r–9^v. And then, in June 1442, the Leuven magistrates had authorized the establishment of yet another new drapery, a serge-type *lichte drapperie*, using a greased carded weft and a dry combed warp: 'in view of the fact that the wool-working industry is on the verge of perishing'. SAL, no. 1528, fo. 86^r: 'datmen van alle wollen, uutgenomen noppen, scroedelinghe, vlocken ende afscoeten, d'wevel [weft] dair kaerden sal mogen ende droech werpe [warp] te scheryen'. See also Van Uytven, *Stadsfinanciën*, pp. 361–9.

¹¹⁶ See much fuller analyses in Munro, *Wool, cloth and gold*, pp. 65–126; and for the gold nobles, see tab. F, pp. 202–3; tab. J, pp. 209–10. See also Munro, 'Anglo-Burgundian alliance', pp. 225–44; Munro, 'Bullionism and the bill of exchange', pp. 169–239; Munro, 'Monetary contraction and industrial change', pp. 95–161.

sales on credit; and third, to provide the Calais mint with one-third of the payment in gold bullion.¹¹⁷

Several times in the past, from the foundation of the Staple in 1363, the crown had imposed various measures to extort bullion for the mint from wool sales; but they had all failed with opposition from the Flemish and the Staplers themselves.¹¹⁸ This time, to ensure full cooperation from the leading and most powerful Staplers, the statute imposed as well the complementary Partition Ordinances, which required that all sales receipts be 'partitioned' amongst the Staplers, not in accordance with their sales, but with their wool inventories. Obviously the wealthiest Staplers, or those with the most capital, benefited the most, while many lesser merchants, who had depended on rapid turnovers of their small stocks to furnish the funds to buy new wools, were sooner or later forced out of business.¹¹⁹ According to subsequent Dutch charges, the entire Calais wool trade fell into the hands of a monopolistic clique of just twenty or thirty Staplers, thus producing a more cohesive cartel that was better able to raise prices, and to enforce the draconian payment regulations. The same Dutch reports also indicate that some of these regulations had been imposed on the Staple a few years earlier, and thus before formal enactment of the official statute.¹²⁰

For the draperies of the Low Countries, the Calais Ordinances were a disastrous and most untimely blow. The sharp increases in wool prices were onerous enough, even if the customs duties were not increased.¹²¹ But far more onerous, surely, were the bullionist payment regulations. For, in the past, drapers or wool-brokers from the Low Countries had been able to purchase wools at Calais with a down payment of just one-third in cash, usually with Flemish gold and silver coins; and they would arrange payment for the remainder over a year or so, with letters obligatory or bills of exchange (usually two bills, six months apart), usually redeemable in Flemish currency at the various fairs in the Low Countries. Very often, the Calais Stapler merchants sold their bills, for sterling, to London-based Mercers and Merchants Adventurer, who, in frequenting these fairs, redeemed or collected the bills and then used the Flemish receipts to buy goods there for import into England (thereby reducing bullion imports, to the consternation of the crown).¹²²

¹¹⁷ *Rot. Parl.*, IV, no. 60, p. 359; and *Statutes of the Realm*, II, pp. 254–6 (statute 8 Henrici VI c.18).

¹¹⁸ See Munro, 'Bullionism and the bill of exchange', pp. 192–8 and Appendix C, pp. 226–7 (in 1340, 1343, 1348, 1364, 1379, 1391, 1397); Munro, *Wool, cloth and gold*, pp. 43–64; and also Appendix I, pp. 187–97 (on mint outputs).

¹¹⁹ Munro, *Wool, cloth and gold*, pp. 84–6; and see also Power, 'Wool trade', pp. 39–90; Lloyd, *English wool trade*, pp. 257–87.

¹²⁰ Smit, *Bronnen*, II, no. 1126, pp. 697–988 and no. 1128, p. 699 (May 1438).

¹²¹ For the customs duties, see Munro, 'Medieval woollens: struggle for markets', tab. 5.1, pp. 299–301. The denizen export duties had, in fact, fallen from 50s per sack (in 1406–20) to 40s per sack (1426–50).

¹²² See Munro, 'Bullionism and the bill of exchange', pp. 198–215; Munro, 'Financial innovations', pp. 105–67; Power, 'Wool trade', pp. 49–72; Postan, 'Credit', pp. 1–27; Hanham, 'Foreign exchange', pp. 160–75; Hanham, *Celys*.

If these drapers now had to pay the full price in coin at the time of purchase, they would have had to borrow the required English coinage and bullion from Italian, Hansard, or Flemish merchant bankers, at onerous rates of interest, while continuing to sell their cloths on credit. Whether or not the thirteenth-century Flemish industry had actually been dominated by merchant-capitalist drapers, the fifteenth-century draperies were operated by petty weaver-drapers who lacked capital resources or ready access to such funds, and were already overly dependent on foreign merchants at Bruges, though also on Flemish merchant-bankers.¹²³ The one exception seems to have been the Leiden cloth industry, dominated by wealthier merchants who were actively engaged in the cloth export trade; and perhaps that is one reason why the Leiden industry survived this crisis more successfully than did the Flemish and Brabantine urban draperies.¹²⁴

The duke's own monetary policy, furthermore, compounded the problem for his subject drapers. After having extensively debased both the gold and silver coinages from 1425, thereby reducing cloth prices in terms of foreign currencies, Duke Philip decided, in October 1433, to unify the various coinages of the Burgundian Low Countries; and, in doing so, to impose a monetary reform that strengthened the silver coinage by 29.7 per cent and the gold, even more, by 38.8 per cent. He retained this austere 'strong money' policy until May 1466.¹²⁵ The immediate result of this *renforcement* was to raise the exchange rates and thus the prices paid for his subjects' woollens in foreign markets.

Since all such coinage *renforcements* necessarily contract the money supply, by reminting the current stock into fewer but stronger coins, the longer-term result, according to Keynesian economic theory, would have also been a rise in interest rates. Indeed, they did rise in the 1430s and early 1440s, though perhaps more because of warfare during these years.¹²⁶ Furthermore, as Raymond de Roover has cogently argued, such a monetary contraction would have also produced a sharp reduction in both the cash reserves and credit resources of deposit-bankers (money-changers) in Bruges and Antwerp. Even worse, as an evident measure to forestall opposition to the monetary reform from such bankers, the ordinance that initi-

¹²³ Murray, 'Cloth, banking, and finance', pp. 24–31; Van Werveke, *De koopman-ondernemer*; Melis, 'Mercanti-imprenditori italiani', pp. 144–61; Van der Wee, 'Structural changes', pp. 203–21; Van der Wee, 'Stadt Lier', pp. 152–3.

¹²⁴ Posthumus, *Leidsche lakenindustrie*, I, pp. 83–181, 254–5, 269–363, 368; Brand, 'Leidse laken-nijverheid', pp. 53–65, 201–5; Brand, 'Urban Policy', pp. 17–34; Brand, 'Medieval industry in decline', pp. 121–49; Brand, *Stekelijke elites in Leiden*, pp. 169–180.

¹²⁵ Munro, *Wool, cloth, and gold*, pp. 87–103, Table C, pp. 198–9, Tables F–G, pp. 202–4; Munro, 'Bullion flows', pp. 112–26, and Table 10, pp. 148–53, Spufford, *Monetary problems*, pp. 2–8, 151–6.

¹²⁶ On the Bruges money market, rates for short-term loans, already high, rose from a mean of 18.5 per cent in 1426–30 to 20.5 per cent in 1431–5; and were 20.25 in 1436–40 (during the Anglo-Burgundian war and the Dutch-Wendish war). See: Van der Wee, *Antwerp market*, I, Appendix 45/2, pp. 526; and for the coinage changes for Brabant, see also Table XV, pp. 127–8. The rise in exchange rates might also have discouraged exports, encouraged more imports, which would have led to an outflow of specie; and more specie might have been exported to foreign mints that continued to debase coins, thereby offering a higher mint price. See Munro, *Wool, cloth and gold*, pp. 11–41.

ated that reform, in October 1433, also forbade any 'money-changer or anyone else to operate a bank to make payments', on penalty of three years' banishment.¹²⁷

For the traditional, luxury-oriented urban draperies in the Low Countries, those in Flanders and Brabant especially, the Calais Ordinances and the Burgundian monetary reform were indeed poisonous pills to swallow. For in the early fifteenth century they had enjoyed, albeit to a limited degree, a recovery and brief Indian Summer of renewed prosperity, especially after the Prussians had forced English cloth merchants to withdraw from much of the Baltic.¹²⁸ Hektor Amman, in his analyses of German cloth markets of this era found that Flemish woollens, especially those of the *drie steden*, had regained their former pre-eminence, followed by the Brabantine and then Dutch woollens, while the much cheaper English broadcloths then ranked a distant fourth.¹²⁹

Now, from the late 1420s, the Low Countries' draperies (or most) faced disaster, which indeed was to prove all too real. After the English Parliament had both strengthened and then indefinitely renewed the Calais Bullion and Staple Ordinances, in July 1433,¹³⁰ and after several subsequent diplomatic missions to Westminster had failed, Duke Philip the Good's only response, though a forceful one, was to extend the existing and now long-traditional Flemish ban against English cloths to all of his domains in the Burgundian Low Countries. His ordinance of 19 June 1434 made it perfectly clear that its objective was to force the English to abolish the hated Calais Ordinances, though undoubtedly protection of the Low Countries' draperies in facing this dire threat also provided a powerful motive.¹³¹ That cloth ban did not, however achieve either of these goals, and instead fuelled an ongoing conflict that led Duke Philip, in 1435, to ally with the French king Charles VII. That *volte face* in turn led to the Anglo-Burgundian war of 1436, which also included a futile Burgundian assault on Calais itself.¹³²

¹²⁷ De Roover, *Money, banking, and credit*, pp. 236–46, 339–41. The original text of the ordinance of 12 October 1433, in the Stadsarchief Gent, Chartes et documents, no. 561, article 11, reads: 'Item que aucune personne, changeur ne autre, ne puisse tenir en la ville de Bruges, ne ailleurs, table de banc pour recevoir l'argent des marchans et faire leurs paiemens sur peine de ban de trois ans'. On the virtual disappearance of deposit-banking in the fifteenth-century Burgundian Low Countries, because of such measures, see Van der Wee, 'European banking', pp. 87–90.

¹²⁸ Munro, 'Anglo-Flemish competition', pp. 37–60; Munro, 'Symbiosis of towns and textiles', pp. 53–8; Lloyd, *England and the German Hanse*, pp. 50–132.

¹²⁹ Ammann, 'Deutschland und die Tuchindustrie', pp. 1–63; see also Abraham-Thisse, 'Le commerce des draps', pp. 167–206. She found, though for more selected periods, somewhat later, a rather similar picture in these German markets, though with a wider array of medium-priced Flemish and Artesian textiles.

¹³⁰ *Rot. Parl.*, III, no. 63, p. 454; *Statutes of the Realm*, II, p. 287 (11 Henrici VI).

¹³¹ Munro, *Wool, cloth, and gold*, pp. 94–108; Munro, 'Industrial protectionism', pp. 238–50. The full text is in Piot, *Chartes de Léau*, no. 8, pp. 26–8: in particular, 'die coipman ende luyde van den selve conickricke [England], die haer wolle plegen te vercoepen ende te setten tot redenlyken prise . . . hebben die selve zeere verhoecht ende geset tot meerdere weerden ende prise; ende dair toe en willen sy die selven wolle onsen onderseten niet vercoepen, ten sy by *billoen van goude of van silvere*, sonder te willen ontfangen gancbair munte'.

¹³² For details, see Munro, 'Anglo-Burgundian alliance', pp. 225–44; Munro, *Wool, cloth, and gold*, pp. 93–126.

Finally, on 29 September 1439, the Burgundians concluded a truce and new commercial treaty with England, restoring the English cloth trade to all Burgundian lands, except Flanders; but not until 1442 did the English finally suspend the Calais Ordinances. Subsequently, the English surreptitiously restored the Calais Ordinances, in turn provoking a second Burgundian ban on English cloths, from 1447 to 1452. After an apparent stalemate, a new Anglo-Burgundian accord was signed, in 1459, by which Duke Philip promised to exclude all non-Staple wools from the Low Countries in return for England's revocation of the Calais Ordinances. But then, in 1463, the new Yorkist monarchy of Edward IV enacted a new version of the Calais bullion laws.¹³³ That, in turn, provoked a third Burgundian ban on English cloth imports, from 1464 to 1467. But subsequently, after Edward IV had been briefly deposed, he received financial assistance from the new duke of Burgundy, Charles the Rash, to regain his throne. In return, Parliament agreed, in 1473, to revoke and abolish forever the hated Calais Ordinances.¹³⁴

X

For most of the traditional urban draperies of the southern Low Countries, however, that seeming victory had come far too late; for the damages inflicted by English fiscal and bullionist policies, if not yet mortal, were certainly punitive. By this time, too many markets had been lost to the English cloth trade—and to the *nouvelles draperies*.¹³⁵ Too much capital and labour had deserted the luxury woollen draperies; and undoubtedly some *nouvelles draperies* benefited from receiving such welcome resources. To be sure, literary evidence may be untrustworthy; and undoubtedly the Hanseatic members of the Bruges *kontor* had greatly exaggerated in stating, as early as October 1433, that because of 'the greatly severe Calais Ordinance', and 'because of the costliness of wool, more than half of the [traditional Flemish] drapery industry has perished'.¹³⁶

That 'costliness' is clearly reflected in the behaviour of the Flemish cloth prices presented in Table 2. Note first that, during the period of the Calais Bullion Ordinances (1429–73), the prices of Ghent's first-quality *dickedinne* broadcloths rose by 44.91 per cent: from a mean of £5.997 *groot* in 1421–25 to one of £8.690 *groot* in 1471–75. The extent of the *real* rise in those

¹³³ *Statutes of the Realm*, II, pp. 392–94 (3 Edward IV c.1). It was somewhat milder, in requiring that only half of the wool payment be made at the time of sale in English coin and/or bullion.

¹³⁴ *Rot. Parl.*, VI, no. 59, p. 60. The formal renunciation actually formed part of a new Anglo-Burgundian commercial treaty in July 1478. Rymer, *Foedera*, XII, pp. 77–8; Smit, *Bronnen*, II, no. 1829, p. 1139. On these events, see Munro, *Wool, cloth, and gold*, pp. 126–179; Lloyd, *Wool trade*, pp. 276–87.

¹³⁵ See the comments of Hanse merchants, in 1458–61, in Stein, 'Handelsbriefe aus Riga', pp. 90–2.

¹³⁶ Von der Ropp, *Hanserecesse*, I, no. 192, p. 136; and earlier (p. 135): 'so hebben de Engelschen langhe tijt hewaeret to Callis grote zwaer ordinancien up de Englesche wulle upgesat und gemaket, und bezwaert de wulle van tyden to tyden also zeere, dat se nymand van daer krygen en mach, daer lakene af te makende . . . daerute dat de neringhe van der draperie zeer medde to nichte gheet'.

prices is all the greater when compared to the movements of the Flemish Consumer Price Index, which, having peaked at 140.17 in 1436–40 then fell precipitously by 36.7 per cent, in the ensuing era of depression and general deflation, to reach a nadir of 88.71 in 1461–65.¹³⁷ Equally significant is the fact that the prices for woollens from the Flemish *nouvelles draperies* did not experience any comparable price rise. Note also how much cheaper were the woollens from Nieuwkerk and Niepkerk, both of which had resorted to Spanish *merino* wools from the 1420s.¹³⁸

Furthermore, a considerable amount of other statistical evidence presents a very grim picture of decline for the traditional draperies, especially in Flanders. By far the worst production indices are those for the Ypres drapery, the one most threatened by both the English cloth trade and the *nouvelles draperies*.¹³⁹ Thus, from 1416–20 to 1481–85 (i.e. before the French war and the second Flemish revolt), the mean number of stalls rented in its cloth halls fell 95.5 per cent, from 550.9 to just 24.9 stalls; and the mean value of the drapery excise-tax farms fell by 74.0 per cent; in Ghent, over the same period, the mean value of the drapery excise-tax farms fell by 78.7 per cent (81.2 per cent from 1426–30).¹⁴⁰

The production indices for the Mechelen drapery (Brabant), however, show a lesser degree of decline: a maximum of 61.8 per cent, from £357.12 *oude groot* in 1421–25 to £136.15 *oude groot* in 1456–60; but then the tax farm sales achieved a partial recovery to £235.75 *oude groot* in 1481–5. During this period, the Mechelen drapery benefited from the now rapid expansion of the revived overland continental trade routes from Italy via South Germany and the Rhineland to the Brabant Fairs (Antwerp and Bergen-op-Zoom), from the South German silver-copper mining boom, and from the dramatic growth of the Antwerp market.¹⁴¹

The Dutch drapery in Leiden evidently fared the best of all, although we have no usable data before 1446–50; but from then until 1481–5, its quinquennial mean imports of English wools rose 2.35 fold: from the

¹³⁷ Note that the base 100 for the CPI is the mean of 1451–75. For more cloth prices, see Munro, 'Industrial protectionism', tab. 13.5, pp. 266–7. On the mid-century depression and deflation, see Munro, 'Economic depression', pp. 235–50; Munro, 'Wage stickiness', pp. 217–30; Munro, 'Mint outputs, money, and prices', pp. 31–122; Munro, 'Deflation', pp. 387–423; Munro, 'Central European mining boom', pp. 119–83; Nightingale, 'European depression', pp. 631–56; Hatcher, 'Great slump', pp. 237–72.

¹³⁸ See nn. 96–8, above.

¹³⁹ Pirenne, 'Population d'Ypres', pp. 458–88; Pirenne, 'Crise industrielle', pp. 621–43.

¹⁴⁰ For the statistics, see Munro, 'Medieval woollens: struggle for markets', tabs 5.5–5.6, pp. 308–11; Munro, 'Industrial protectionism', tab. 13.4, pp. 264–5. For further evidence of industrial decline, see Munro, 'Economic depression', pp. 95–161; and Munro, 'Symbiosis of towns and textiles', pp. 1–74. The first Flemish revolt against the Habsburg prince Maximilian (husband of the late duchess Marie) was brief, from 1483–5, followed by war with France, in 1486–9, during which the far more serious revolt took place, from 1488 to 1493.

¹⁴¹ See Munro, 'Medieval woollens: struggle for markets', tab. 5.6, pp. 310–11; and the text: pp. 286–91. See also Van der Wee, *Antwerp market*, II, pp. 73–87, 113–18; Van der Wee, 'European long-distance trade', pp. 14–33; Munro, 'Central European mining boom', pp. 119–83; Munro, 'Changing fortunes of fairs', pp. 1–47; Munro, 'Low Countries' export trade', pp. 1–30; Mertens, 'Mechelen cloth', pp. 114–23; Mertens, 'Toenemende economische welvaart', pp. 83–93.

equivalent of 714.14 sacks to one of 1,678.53 sacks. Outputs of Leiden's quality *halvelakenen* rose from a mean of 14,745 pieces in 1466–70, when production statistics are first available, to one of 25,148 pieces in 1501–05: a rise of 70.6 per cent.¹⁴² Apart from the reasons given above, the prime explanation for its success in surviving the English threat so well were the Dutch victories in gaining virtual mastery over the Baltic trades from the Hanse, after their victory in the Dutch–Wendish war (1436–9), but especially during the Hanseatic embargo of Flanders (1451–7).¹⁴³

Nevertheless the bitter fruits of the English fiscal-monetary policies and the threat posed by the expansion of the English cloth trade were very harmful, as revealed by the statistics on English wool and cloth exports. From 1416–20 to 1481–85, woosack exports fell 50.1 per cent, from a mean of 13,355.4 sacks to one of 6,669.6 sacks; and cloth exports, despite encountering a slump during the mid-century depression, virtually doubled during this period, from a mean of 27,977 broadcloths in 1416–20 to one of 54,198 broadcloths in 1481–85. By the early 1480s, they were enjoying the beginning of a 60-year export boom, which would reach a quinquennial mean peak of 118,056 cloths in 1541–5.¹⁴⁴ But, even in the 1480s, a German observer in the Low Countries had compared the current influx of English woollens to an 'immense inundation of the sea'.¹⁴⁵

XI

Nevertheless, as the earlier evidence on the quite radical changes in wool usages would suggest, many if not all the Flemish *nouvelles draperies* were able to circumvent the Calais Ordinances and thus avoid, or at least postpone, the fate of the traditional urban draperies, by resorting to the use of Spanish *merino* wools. As early as 1436, when the Duke Philip was enlisting support from the Flemish urban militias for his attack on Calais, Collard de Comines, the Sovereign Bailiff of Flanders, contended that 'the wools of Spain and Scotland are beginning to be adopted in conformance with English wools, and these said wools are now being used to almost the same extent as the English wools used to be'.¹⁴⁶ Two years later, in May 1438, the Dutch and Burgundian ambassadors sent to negotiate a truce at

¹⁴² See Munro, 'Medieval woollens: struggle for markets', tab. 5.6, pp. 310–11.

¹⁴³ See Brand, 'Medieval industry in decline', pp. 121–49; Brand, 'Leidse lakennijverheid', pp. 53–65; Dollinger, *German Hansa*, pp. 285, 293–4, 298–317; Jansma, 'Philippe le Bon', pp. 5–18; Daenell, *Blütezeit*, I, pp. 221–61, 275–85; Ketner, *Handel en scheepvaart*, pp. 16–20; Postan, 'England and the Hanse', pp. 91–154; Malowist, 'L'expansion économique des Hollandais', pp. 91–138.

¹⁴⁴ For the statistics, see Munro, 'Medieval woollens: struggle for markets', tab. 5.3, pp. 304–5. See also Nightingale, 'European depression', pp. 631–56; Hatcher, 'Great slump', pp. 237–72.

¹⁴⁵ An 'inundacionis maris immensis': in Schäfer, *Hanserecesse, 1477–1530*, II, p. 105 (1487).

¹⁴⁶ Morand, *Chronique*, II, p. 378: also recording Commynes' complaints about the severe costs imposed on the Flemish cloth industry by the Calais Bullion ordinances: 'que la laine d'Angleterre est mise si hault que les marchans n'y peuvent prouffiter, et que, plus estre, il fault payer ung tiers de buillon et baillier deux Phelippes pour ung noble' [i.e. purchase English gold nobles with Burgundian gold Philippus at an adverse exchange rate].

Westminster, also pointed out to King Henry VI's councillors that, as a direct result of the Calais Ordinances, English wool sales had fallen by over one half and that merchants from Spain and Scotland, 'have succeeded in selling three times more [of their] wool in our towns, which used to buy large amounts of English wool'.¹⁴⁷ As a final example to be cited, during the 1467 treaty negotiations, to end the third Burgundian cloth ban, Duke Philip's ambassadors once more warned the English that, if they did not revoke the Calais Ordinances, the draperies in the Low Countries 'would be forced either to give up cloth-making entirely, or else find their wools elsewhere, which would mean giving up entirely the said English wools'.¹⁴⁸

As the English undoubtedly surmised, the traditional urban draperies would not—not yet—dare to forsake the very essence of their ultra-luxury woollens, and thus would not risk losing more customers. But perhaps, at this time, neither fully appreciated the growing threat posed by the Flemish *nouvelles draperies*, many of whom now had a much greater willingness to acquire Spanish and Scottish wools. The difference in industrial attitudes is not that difficult to understand. For, if the *nouvelles draperies* were, by their very nature, cost-cutting 'counterfeiters', they would have been much less reluctant to accept yet another compromise in standards by resorting to these wools, Spanish especially—certainly not if doing so ensured a greater likelihood of survival, with such steeply rising costs for English wool.

Of course, there is no adequate method of measuring that degree of compromise involved, in terms of the relative qualities of these two short-fibred, fine wools. That Spanish *merino* wools were, in the 1430s, still much inferior to the English was not to be disputed, according to the anonymous author of the *Libelle of Englyshe Polycye*, who asserted that 'the wolles of Spayne . . . is of lytell valeue, trust unto me', unless it was mixed with English wool.¹⁴⁹ Such views were not just mere English prejudice. Many of the fifteenth-century industrial *keuren* of the Flemish *nouvelles draperies* certainly do rank Spanish wools well below the second-grade English wools, and sometimes even below Scottish wools.¹⁵⁰

Furthermore, by no means all of the *nouvelles draperies* were so willing to experiment with Spanish wools, despite the rising costs of English wools. Many of the older ones, especially this group's leaders in the later fourteenth century, were now manifesting attitudes about quality production more akin to those of the Flemish *drie steden*. In Wervik for example, its urban magistrates required all drapers, in 1447, 'to swear a holy oath yearly upon the

¹⁴⁷ Smit, *Bronnen*, II, no. 1126, p. 698.

¹⁴⁸ Thielemans, *Bourgogne et Angleterre*, doc. no. 8, pp. 473–4.

¹⁴⁹ Warner, *Libelle of Englyshe polycye*, p. 6: 'Wyth Englysshe woll but if it mended be'. He also stated: 'But ye Fflemmynges, yf ye be not wrothe, the grete substaunce of youre cloothe at the fulle Ye wot ye make hit of oure Englyssh wolles' (p. 5).

¹⁵⁰ See those for Comines, Estaires, and Menen, in De Sagher et al., *Recueil de documents*, II, no. 220, pp. 30–2; no. 265, pp. 276–80; III, no. 396, p. 37.

cross to use none but English wools'.¹⁵¹ But twelve years later, in 1458, a group of Wervik drapers petitioned Duke Philip's officials to revoke this regulation.¹⁵² A lengthy investigation was then held at the ducal *Chambre de Comptes* in Lille. In finally issuing their report in 1463, the Burgundian officials agreed, on the one hand, that the high cost of English wools, and especially the requirement that they 'must be paid for fully in ready money', did indeed justify the substitution of Spanish and Scottish for English wools.¹⁵³ On the other hand, they reported staunch opposition to such usage, on the grounds that 'if cloths were to be made from all manner of wools, then merchants would no longer wish to come here, so that the said town would become scandalized and outcast'.¹⁵⁴ With the Brussels *nouvelle draperie* (of 1443) serving as a possible model, they decided to authorize the use of Spanish, Scottish, and domestic wools at Wervik for sealed woollens, but only for those drapers who swore to make only *petits draps*, bearing a distinctly different seal, and swore not to use any English wools.¹⁵⁵ About this same time, another 'old' *nouvelle draperie*, Kortrijk, also belatedly adopted Spanish wools; but not the old stalwarts Diksmuide and Lange-mark. Indeed, none of these draperies fared all that well during the mid to later fifteenth century.¹⁵⁶

XII

Certainly, those newer *nouvelles draperies* that did survive and then expand were those that did make the switch, in whole or in part, to Spanish wools; and by the early sixteenth century, that switch may have been further justified by an improvement in the quality of *merino* wools. In 1527 the leaders of the Calais Staple contended that 'Spanish woolls increase as well in fynes as in quantitie, and bine brought into Flaundres in greate aboundance more in one yeare now then hath bine heeretofore in three'; and the reason why the Flemish 'practise themselves more and more in the drapery of the said Spanish wooll'es' is 'because they have a better pennyworth thei'of, then [sic] the staplers can afforde them of English wooll'es'. Even if the Staplers had thereby correctly pointed out the major factor responsible for their declining wool sales, a fall of 47 per cent from the later 1490s, their plea for royal assistance—that 'his Grace will have pittie and compas-

¹⁵¹ De Sagher et al., *Recueil de documents*, III, no. 586:195, p. 564: 'Ende zullen elc drapier ende drapierghe jaerlicx eed doen ten helegghen up een cruus gheen andre wulle dan Inghelsche te drapiere'.

¹⁵² *Ibid.*, III, no. 577, pp. 520–1.

¹⁵³ *Ibid.*, III, no. 582 (Oct. 1463), pp. 528–9: on English wools, 'veu qu'elles se sont tres chieres et qu'il les fault paier d'argent comptant'.

¹⁵⁴ *Ibid.*, III, nos. 581–82, pp. 527–8 (June, Oct. 1463).

¹⁵⁵ *Ibid.*, III, nos. 583, pp. 530–1 (16 Nov. 1463).

¹⁵⁶ *Ibid.*, III, no. 581, p. 527. On these draperies, see in particular, Stabel, 'Décadence ou survie', pp. 63–84; Stabel, *Kleine stad in Vlaanderen*, pp. 100–47; Stabel, *Dwarfs among giants*, pp. 127–73; and see n. 182 below.

sion upon them, that stand nowe in the state of utter decaye and destruction'—may undermine one's full confidence in all their assertions.¹⁵⁷

Possibly closer to the mark were the contemporary observations of an English merchant named Clement Armstrong, in his *Treatise Concerning the Staple and the Commodities of this Realme* (c.1519–35). He voiced the current opinion that 'Spaynysh woll is almost as good as English woll, which may well be soo, by that Spayn hath housbondid ther wolle frome wurse to better, and England from better to wurse'. Armstrong, however, had his own axe to grind, since his treatise was partly an assault on the current Tudor enclosures, whose richer feeding of sheep flocks he held responsible for a supposed deterioration in the fineness of English wools. Armstrong also contended, as had the author of the *Libelle* a century earlier (c.1436), that Spanish wools had to be mixed with English wools to produce cloths that had any 'durable weryng', because 'English wolle hath staple and Spaynysh woole hath no staple'.¹⁵⁸ In all likelihood, Spanish *merino* wools probably did not surpass the finest English wools until the late sixteenth or early seventeenth century.¹⁵⁹

The best evidence to support both of these views, and the importance of Spanish wools, is to be found in the *keure* for what had now become the most aggressive leader of the 'new' *nouvelles draperies*, the famed *Armenitières* drapery (see table 1). For the manufacture of its best *draps outtreffins*,

¹⁵⁷ Text in Tawney and Power, *Tudor economic documents*, II, Section I:9, pp. 24–31; and Schanz, *Englische Handelspolitik*, II, pp. 565–9. For the Staple's commercial-financial difficulties in the 1520s, see Rich, *Ordinance book*, pp. 7–20. Denizen wool-exports, chiefly to Calais, had fallen from a mean of 8,678.80 sacks in 1496–1500 to one of 4,598.60 in 1521–5—and to as low as 2,235.20 sacks in 1531–35. Munro, 'Medieval woollens: struggle for markets', tab. 5.3, p. 305.

¹⁵⁸ Text in Tawney and Power, *Tudor economic documents*, III, pp. 90–114; quotations on p. 102. Armstrong stated that 'because the erthe is now putt to idulnes to bryng forth rank, foggye, wild gresse', it was thereby irreparably impairing the quality of English wools, producing indeed 'wild heyry wolle' and thus 'so is the gift of fyne wolle yerly lost' (quotations on pp. 101–2). See also Bowden, *Wool trade*, pp. 4–6, 26–7, and his 'Wool supply and the woollen industry', pp. 44–51, Mann, *Cloth industry*, pp. 257–79; and Youatt, *Sheep, passim*, for similar arguments that enclosures, by producing richer, year-round ample feeding, produced much bigger, heavier-weight sheep, with longer, coarser-stapled fleeces, whose wools were thus more suited to worsteds than to woollens. Enclosures, however, also permitted segregation of flocks and provided capital for breeding rams; and selective breeding to produce much larger, fatter sheep for the urban meat markets, larger sheep with longer, coarser fleeces, may provide a better explanation for this undoubted change in English wool types and qualities, which in turn facilitated the expansion of the Elizabethan New Draperies. See Munro, 'Origins of the English "New Draperies"', pp. 35–128; Munro, 'Medieval woollens: textiles', pp. 186–91; Hartwell, 'Destiny of British wool', pp. 328–35.

¹⁵⁹ In England, during the 1640s, Spanish wools cost on average 3s. 3d. per pound, compared to 3s. 0d. per pound for the best Herefordshire 'Ryelands'; and in the 1660s, Spanish 'superfine' wools averaged 4s. 2d. per pound, while the better English wools averaged only 1s. 5d. per pound. See Carter, *His Majesty's Spanish flock*, pp. 9, 11, 413, 420–2; Bowden, *Wool trade*, p. 27, citing in particular *England's glory by the benefit of wool manufactured therein* (anonymous, 1669); Mann, *Cloth industry*, pp. 257–9; Smith, *Chronicon-rusticum*, II, pp. 410–11, 499, 514–15, 542; Hartwell, 'Destiny of British wool', pp. 336–8 (on the English merinos, from 1788). Mann also states (pp. 266–7) that in the eighteenth century, Spanish *merino* wools had a staple length of only 0.50–0.75 inch, compared to one of 1.50 inch for Herefordshire wools. But both Carter, *His Majesty's Spanish flock*, p. 421 and Usher, *Industrial history*, p. 195 provide the following figures for the modern era: 2.25–2.50 inches for *merino* wools, compared to 10.5 inches for Lincolnshire wools.

it specified a mixture of the two as follows: 'le tierch de laine englesse et les deux pars fine laine d'Espagne', while requiring that 'le laine d'Espagne soit de sy bon poil que pour corespondre alle laine englesse'. As for the latter, only the best English wools were to be used: Cotswolds, Berkshires, Lindseys, and Young Cotswolds. Scottish wools, on the other hand, and other *laines désléables* were strictly forbidden.¹⁶⁰ Such a mixture of wools was probably still necessary to maximize the fulling properties of the wool; but, whatever the reason, that demand for English wools, and the expansion of the more aggressive *nouvelles draperies*, along, of course, with continued demand from the Leiden drapery, did ensure some survival of the Calais Staple trade (which endured until Calais was restored to France in 1558).¹⁶¹

Possibly, some significant improvement in the quality of *merino* wools by the early sixteenth century had become a powerful enough incentive for the surviving remnants of the traditional urban draperies finally to adopt the use of Spanish wools, all the more so when they faced not just a contracting but a very limited demand for their traditional luxury products. As noted earlier, Leuven may have done so as early as the 1480s; but it was certainly using Spanish wools by 1513.¹⁶² By 1519, if not earlier, the Ghent drapery was also using Spanish wools; and its drapery *keuren* was evidently closely modelled on those of Leuven.¹⁶³

A few years later, in June 1522, the Leiden *gerecht* (magistrates) officially also authorized the use of Spanish *merino* wools—which had been first mentioned, and banned, in 1479.¹⁶⁴ Leiden's cloth production had, in fact, recently peaked, at a mean of 26,245 *halvelakenen* in 1516–20;¹⁶⁵ and, according to the 1522 ordinance, the Leiden drapers had been encountering even higher prices at the Calais Staple, so that *merino* wools were now 25 per cent cheaper than English Staple wools.¹⁶⁶ Nevertheless, the *merino* wools were used in only limited quantities, usually mixed with some English wools, as elsewhere. Even so, many drapers began to complain that Spanish

¹⁶⁰ De Sagher et al., *Recueil de documents*, I, no. 36: pp. 102–03, 103–17 (25 October 1510). Revised *keure* issued 14 August 1512: no. 37, pp. 118–25; third revision, 19 Nov 1518: no. 38, pp. 126–43 (no changes in wools).

¹⁶¹ See Rich, *Ordinance book*, pp. 14–35. For wool exports in this era—4,576 sacks in 1541–5—see Munro, 'Medieval woollens: struggle for markets', tab. 5.3, p. 305.

¹⁶² See above, p. 461, n. 115, and the next note.

¹⁶³ Stedelijk Archief Leuven, no. 723, fo. 1^r–5^v; and no. 1526, fo. 203^r–10^v (referring to the Ghent *keuren* of 1519). For Boone's contention that Ghent had begun using Spanish wools in the 1450s, and my reply, see n. 88, 112, above, and Munro, 'Origins of the English "New Draperies"', pp. 97–8, n. 33. The first extant and complete drapery *keure* for Ghent that stipulates the requirements for manufacturing woollens from Spanish wools is dated 22 May 1546: published in Lameere and Simont, *Recueil des ordonnances*, V, pp. 272–83.

¹⁶⁴ Posthumus, *Bronnen*, I, no. 440:37, p. 503. For earlier punishments of drapers caught using non-English wools, see nos. 115–16, pp. 131–3 (1434); no. 474, pp. 590–1 (1476).

¹⁶⁵ Munro, 'Medieval woollens: struggle for markets', tab. 5.6, p. 311.

¹⁶⁶ Posthumus, *Bronnen*, II, no. 903, pp. 316–17. For complaints about rising English wool prices at the Staple, see nos. 867 (1518), 869 (1519), on pp. 194–5, 297–9, and also pp. 331–2. See also Posthumus, *Leidsche lakenindustrie*, I, pp. 206–15, stating that Spanish wools then cost 75 per cent as much as the English; and Brand, 'Medieval industry in decline', pp. 121–49; Van Houtte, *Economic history*, pp. 156–62.

wools were not only inferior to the English, but were more difficult to comb, and that fulling cloths containing such wools required much more effort and time. This resort to Spanish wools did nothing to stave off the industry's continuing decline, with the relentless growth in English competition. Indeed, Leiden's output of *halvelaken* fell to a mean of just 11,747 pieces in 1546–50, a sharp drop of 55.2 per cent from its peak output.¹⁶⁷ Well before then, in 1536, the Leiden drapery decided that, in order to safeguard its reputation and retain its existing customers, it would resume its exclusive use of English Staple wools. Amsterdam and Gouda, on the other hand, long having produced cheaper-quality woollens, were quite content to continue using Spanish wools.¹⁶⁸

During this period, the Bruges drapery, or rather its remnant, remained quite unchanged; and indeed in July 1533, its magistrates remarked, in letters to the Dowager Queen of Hungary, that their woollens still 'se fait des laines Dangleterre',¹⁶⁹ and in that same year, they also explicitly reaffirmed the traditional ban on non-English wools.¹⁷⁰ Earlier, however, Bruges had not been oblivious to the significance of Spanish wools. For, in December 1493, the town magistrates had skilfully secured exclusive staple rights for their importation into the Low Countries, a growing trade that ensured some continuing prosperity for the Flemish port in the sixteenth century.¹⁷¹ Indeed, in 1486–7, 43 of the 75 ships entering Bruges' outport were Iberian; and of the latter, 19 were carrying wool, with a capacity of 2,845 tonnes (34.4 per cent of that year's total tonnage).¹⁷² Furthermore, in the very early sixteenth century, the Bruges town government also tried, but failed, to establish various *nouvelles draperies*, in the style of Armentières, Nieuwkerk, and Tournai; and these undoubtedly would have used Spanish wools.¹⁷³

Subsequently, in November 1533, the Bruges magistrates once again sought to introduce a *nieuwe draperie*, 'in the style of Armentières', but one

¹⁶⁷ Munro, 'Medieval woollens: struggle for markets', tab. 5.6, p. 311.

¹⁶⁸ Brand, 'Medieval industry in decline', pp. 135–49.

¹⁶⁹ Gilliodts-Van Severen, 'Relations de la Hanse', no. 24, p. 272.

¹⁷⁰ Rijksarchief West-Vlaanderen te Brugge, Charters Blauwennummers, no. 8321: accusation of the *deken* of the wool-weavers guild, before the college of civic *schepenen*, on 17 November 1533, against a dyer-drafter who had made some woollens from Flemish and Rhenish wools, 'contrarie t'inhouden vanden drientseventich [73rd] article vanden keure vanden voors. ambochte dat expresselic verbiet and interdiceert eenighe Brugsche lakene te reedene dan van Inghelsche wulle, uuteghedaeen smalle lakenen'. A similar case was heard on 19 Jan. 1534 *ns.* in CB no. 8322. See also n. 86 above, for references to use of Spanish wools in Bruges' *smalle lakenen* as early as 1434.

¹⁷¹ Gilliodts-Van Severen, *Etaple de Bruges*, I, no. 1277–16, pp. 290–1; no. 1279, pp. 291–2 (12 December 1493). Reconfirmed on 7 August 1540: in Lameere, *Recueil des ordonnances des Pays Bas*, IV, pp. 221–2. Note that this was three years before Archduke Philip's marriage to Joanna of Spain. In the 1490s, Bruges also tried, and failed, to secure a staple in English cloth; but it finally did succeed in 1540. See Munro, 'Bruges and the abortive Staple', pp. 1138–59; Munro, 'Industrial protectionism', pp. 251–4. On the Spanish wool trade, see Van Houtte, *Bruges*, pp. 91–2.

¹⁷² Gilliodts-Van Severen, *Archives de Bruges*, VI, no. 1221, pp. 275–6. Three other unidentified ships were also carrying wool; and they were probably Spanish. See also Finot, *Relations commerciales*, p. 223: contending that in 1484 Bruges had received more than 150,000 kg. of Spanish wool.

¹⁷³ De Sagher et al., *Recueil de documents*, III, no. 425, pp. 126–28 (1503); Gilliodts-Van Severen, *Etaple de Bruges*, II, no. 1367, pp. 376–7 (1507); Van Houtte, 'Leidse lakens in Brugge', pp. 331–9; Van Houtte, *Bruges*, p. 102.

that would use only Spanish wools.¹⁷⁴ Perhaps the fact that the aforementioned ban on non-English wools was reaffirmed in that very same month may explain why this project was, once more, abortive. Only in September 1544 did Bruges finally succeed in establishing a *nieuwe draperie* based exclusively on Spanish wools.¹⁷⁵ On 7 July 1546, the Bruges magistrates ruled that, while the *nieuwe draperie* with Spanish wools would continue to be regulated by the recent ordinances, the former *keuren* for the *oude draperie* with English wools were to remain in force.¹⁷⁶ In June 1548 the drapers of the *oude draperie* stated that because of the great scarcity of English wools at Calais, and the imminent extinction of their drapery, they wished to secure the right to continue making their traditional woollens from Spanish wools in the very same 'manner as declared in the *keure* of the old drapery based on English wool'; and from 1548 all woollen cloths in Bruges were supposed to be made only from Spanish wools.¹⁷⁷ Nevertheless the Bruges towns' accounts for the 1550s and 1560s do record the purchase, from the town's drapery, of woollens named *bellaerden* and *dobbel leeuwen* [double lions] *van Inghelsche wulle*; and they also refer to the *nieuwer draperie van Inghelsche wulle*.¹⁷⁸ Lastly, in this same era—in 1544 and 1545—Mechelen, Ypres, and Ghent issued new drapery *keuren* that authorized the use of Spanish wools in certain sealed cloths; but all continued to make their finest woollens from English wools.¹⁷⁹

¹⁷⁴ Rijksarchief West-Vlaanderen te Brugge, Charters Blauwennummers, no. 8320: petitions dated 12 Nov. 1533, concerning the 'nieuwe draperie onlanx upghestelt ende beghonnen binnen der zelve stede van Spaensche wulle', to produce woollens in the style of Armentières for three years. See also Gilliodts-Van Severen, *L'ancien consulat d'Espagne*, I, pp. 296–7.

¹⁷⁵ The drapery *keuren* (63 articles) are published in Willemsen, 'Draperie brugeoise', pp. 5–74: 'op te stellene een nieuwe draperie ende aldaer te drapierene ende reedene diverse soorten van lakenen van Spaensche wulle [dobbel leeuwen, inkel leeuwen, ghecronde B, griffoen]'. In Rijksarchief West-Vlaanderen te Brugge, Charters Blauwennummers, nos. 8415–19, 8365, 8371–2 are other contemporary Bruges drapery ordinances (*tempore* Charles V) concerning 'eene nieuwe draperie' to produce 'diverse sorte van lakenen van Inghelsche ende Spaensche wulle' (CB no. 8414); and in others, ordinances for the production of *lammekins* and *effen* woollens: 'vander welke Spaensche wulle men sal moghen maken als hier ghemacet vander Yngelsche wulle' (CB no. 8419).

¹⁷⁶ Rijksarchief West-Vlaanderen te Brugge, Charters Blauwennummers, no. 8365.

¹⁷⁷ Rijksarchief West-Vlaanderen te Brugge, Charters Blauwennummers, no. 8372: 'van Spaensche wolle . . . in maniere als inhoudt ende verclaerst de keure vander ouder draperie vanden Inghelsche wulle'.

¹⁷⁸ Bruges *stadsrekeningen* in: Algemeen Rijksarchief België, Rekenkamer, registers nos. 32,602–32,611 (1550–1561); in particular, no. 32,611 (1559), fo. 55v.

¹⁷⁹ Willemsen, 'Draperie malinoise', pp. 156–90; Diegerick, *Archives d'Ypres*, vol. 5, app. S, pp. 305–12 (1545); vol. 6, no. 1753, p. 41 (1552). The extant town accounts for Ypres (*stadsrekeningen*) in this era that explicitly mention the type of wool used in the production of Ypres' cloths purchased for the ceremonial dress of the town officials, in the years 1528 to 1531, specify only English wools (at £36 pound *groot* per sack): Algemeen Rijksarchief België, Rekenkamer, registers nos. 38,750–53. For Ghent's production of the finest *dickedinnen*, exclusively from the best English staple wools (March, Cotswolds), in 1546, but along with woollens from Spanish and other wools, see Lameere and Simont, *Recueil des ordonnances*, V, pp. 272–83. For Mechelen's production of fine *rooslaken* from English wools in this period, see Stadsarchief Mechelen, *stadsrekeningen* series I: nos. 185–226 (1510–50); and Munro, 'Textiles as articles of consumption', pp. 275–88; Munro, 'Origins of the English "New Draperies"', tab. 8, p. 89.

Although very fine and costly woollens from both Mechelen and Ypres, along with Spanish-wool based woollens from Bruges (*dobbelen leeuw*), can be found on the Antwerp market as late as the 1570s, they were certainly outnumbered there not only by woollens from England, but also by those from the surviving *nouvelles draperies*, especially those of Armentières, Menen, Nieuwkerk (all in Flanders), Lier, and Herenthals (both in Brabant).¹⁸⁰ Clearly the *nouvelles draperies* were by far the predominant and pre-eminent producers of genuine woollens in the mid-sixteenth century Low Countries. Yet, many that had been so prominent in the fourteenth and fifteenth centuries (e.g. Wervik, Kortrijk, Comines, Langemark, Diksmuide) no longer or just barely survived.¹⁸¹ Some had become extinct because of their failure to adopt Spanish wools soon and fully enough; but others that had adopted Spanish wools failed for a variety of reasons. The resort to Spanish wools, while providing salvation for some, was not in itself a guarantee of survival; and most of those who did continued to use at least some English wools.¹⁸² The sixteenth-century leaders—Armentières, Nieuwkerk, and Menen—evidently reached their peak in the 1540s, when, according to some reports, 40,000 to 50,000 sacks (or bales) of *merino* wools were being imported annually.¹⁸³ Menen, for example, had increased its output from an estimated mean production of 1,690 woollens in 1480–1500 to one of 2,380 woollens in 1540–60, which then declined to 2,040 woollens in 1560–80.¹⁸⁴ Subsequently these *nouvelles draperies*, no longer new, proved no more able to withstand the continuing onslaught from the English cloth trade than did the Leiden drapery.¹⁸⁵

Certainly their heyday had passed by the 1560s, when, according to a recent study on textile manufacturing in the southern Low Countries, the production of woollen cloths from the *nouvelles draperies* and the very few remaining traditional draperies was then about 2.07 million metres, while

¹⁸⁰ Thijs, 'Marché anversois', pp. 76–86. For the progress and fortunes of the *nouvelles draperies* from the 1460s to the 1560s, see Stabel, *Kleine stad*, pp. 100–21, 122–74; Stabel, *Dwarfs among giants*, pp. 137–74; Stabel, 'Een kwantitatieve benadering', pp. 113–53.

¹⁸¹ Kortijk's cloth production had fallen from an estimated mean of 5045 woollens in 1420–40 to just 1475 woollens in 1500–20, to just 215 in 1540–60, and to nothing thereafter. Stabel, *Kleine stad*, tab. 1, p. 168.

¹⁸² See nn. 155–6 above and n. 184 below; and especially Stabel, *Kleine stad*, pp. 100–41; Stabel, *Dwarfs among giants*, pp. 137–73; Stabel, 'Décadence ou survie', pp. 63–84.

¹⁸³ For Flanders alone, some 30,000 sacks were imported in 1530, according to a Flemish report in Gilliodts-Van Severen, *Consulat d'Espagne*, I, pp. 303–4. See Van Houtte, *Bruges*, p. 91, for an estimate of 40,000 sacks [7,200 tonnes] imported in 1540; but for a 'peak' estimate of 50,000 sacks imported annually, see Phillips, 'Merchants of the fleece', p. 79. In 1541–45, English wool exports to Calais averaged just 3,879.3 [625.64 tonnes] sacks a year: Munro, 'Medieval woollens: struggle for markets', Table 5.3, p. 304–55. See also Brulez, 'Commerce internationale', pp. 1205–21; and Munro, 'Export trade in textiles', tab. 1, p. 20; Munro, 'Institutional economics', tab. 5, pp. 46–7.

¹⁸⁴ Stabel, *Kleine stad*, tab. 1, p. 168; and see also *ibid.*, pp. 102, 132–3. In the sixteenth century, Menen made its first-quality woollens from only the finer English wools: Young Cotswolds, Middle March, 'et de nulle autre sorte de layne de moindre pris'; and 'les draps fins' from Fine March and Leominster wools [in Herefordshire], while using 'layne d'Espagne' for second-quality woollens. De Sagher, *Recueil de documents*, III, 37, no. 396, confirming the privilege of 28 September 1528.

¹⁸⁵ See Munro, 'Medieval woollens: struggle for markets', tabs 5.5–5.6, pp. 308–11; Brand, *Medieval industry in decline*, pp. 121–49; and Van der Wee, 'Woollen industries', p. 404–39.

output from the various *sayetteries* and other *draperies légères* (*sèches*) was 3.64 million metres, i.e. about 76 per cent more.¹⁸⁶ Indeed, from the later fifteenth century, these latter industries, once again led by Hondschoote, had enjoyed a remarkable revival and renewed expansion,¹⁸⁷ for a number of complex reasons that I have discussed at length elsewhere: chiefly structural changes in international trade, involving a sharp fall in transaction costs in particular, strong demographic and economic growth in general, and other market changes that once again favoured an international trade in the relatively cheaper and lighter textiles, especially to the Mediterranean basin, and also to the Iberian New World.¹⁸⁸

XIII

This article concludes with an analysis of the truly seminal article by Henri Pirenne on 'Une crise industrielle au XVI^e siècle: la draperie urbaine et la nouvelle draperie en Flandre', published exactly a century ago (1905).¹⁸⁹ Though Pirenne's historical studies were those that chiefly inspired me personally to become an economic historian, I must regrettably point out four serious faults that have misled so many scholars since then.¹⁹⁰ First, Pirenne incorrectly thought that Spanish wools were totally different from the English and were used only in these 'light draperies', when in fact they were never used in any of the *sayetteries*.¹⁹¹ Second, therefore, he badly confused the true *nouvelles draperies*, such as those in Armentières and Nieuwkerk (Neuve-Église), which belonged to the heavy-weight *draperie ointe*, with those of the light-weight *sayetteries*, such as Hondschoote and Bergues-Saint-Winoc, which produced vastly cheaper textiles in the sixteenth century.¹⁹² Third, he thought that they were all 'new draperies' when in fact the *sayetteries* and related draperies were an ancient industry that had recently enjoyed a remarkable 'resurrection', as just noted, from the later fifteenth century; and the true *nouvelles draperies* were actually born with the industrial transformations of the mid-fourteenth century.¹⁹³

¹⁸⁶ Soly and Thijs, 'Nijverheid', pp. 27–57.

¹⁸⁷ See Munro, 'Medieval woollens: struggle for markets', Table 5.5, pp. 308–9; Munro, 'Origins of the English "New Draperies"', Table 6, p. 63; and pp. 83–9; Coornaert, *Hondschoote*, pp. 22–43.

¹⁸⁸ Munro, 'Origins of the English "New Draperies"', pp. 83–7; Munro, 'Changing fortunes of fairs', pp. 1–47; Munro, 'Low Countries' export trade', pp. 1–30.

¹⁸⁹ Pirenne, 'Crise industrielle', pp. 621–43. See n. 139 above.

¹⁹⁰ See in particular Coleman, 'An innovation and its diffusion', pp. 417–29.

¹⁹¹ See Van Haec, *Sayetterie à Lille*, II, doc. no. 10, p. 42 (May 1527): 'ne user de laisnes d'Espagne, plis, mortin, ne aignelin, mais usent doresenavant de laisnes veaurices, Escoches, de Noef Chaslet [Newcastle] suellement'; and also, in I, pp. 15, 75, 238–9. See also the Hondschoote *keuren* in De Sagher, *Recueil de documents*, III, nos. 287–303, pp. 346–448; Coornaert, *Hondschoote*, pp. 189–98, 200, 2141–5; and his 'Draperies rurales', p. 82.

¹⁹² In the mid-sixteenth century, the prices of Hondschoote says ranged from £1.733 to £1.933 *groot* Flemish, compared to a range of £2.750 to £5.333 for Armentières woollens. See De Sagher et al., *Recueil de documents*, I, nos. 36–54 (pp. 102–201); II, nos. 287–303, pp. 346–448 (Hondschoote); Thijs, 'Marché anversoïis', pp. 76–86; and Munro, 'Medieval woollens: struggle for markets', tabs 5.5–5.6, pp. 308–11.

¹⁹³ See above, pp. 442–3.

Fourth, the ultimate pre-eminence of the true *nouvelles draperies* and the *sayetteries* was far from being just a simple victory of rural 'free enterprise' over rigid, sclerotic, guild-dominated protectionist urban draperies. Indeed, just as with the later English 'New Draperies', both of these textile industries were or became essentially urban, with their own guild organizations and sets of urban-sanctioned industrial regulations.¹⁹⁴ Several studies, including my own, have sought to provide a truer if far more complex explanation for these industrial transformations, but, Pirenne's views evidently still prevail.¹⁹⁵

XIV

There was, of course, yet another set of industrial transformation in textiles, about to unfold, from the late 1560s, with the outbreak of the Revolt of the Low Countries (1566–8), and the brutal Spanish reconquest of the southern Low Countries. Many textile artisans engaged in these Flemish *sayetteries* fled for sanctuary both north, into Holland, and west, across the Channel, into East Anglia, re-establishing their 'new draperies' in both places. Ultimately, by the mid-seventeenth century, when English wool-production had shifted so decisively in favour of worsted wools, England's New Draperies (producing says, bays, stuffs) would gain a comparative advantage in the field of the cheaper light textiles, while Leiden would successfully restore its *oude draperie* and gain a similar comparative advantage in the markets for heavyweight woollens.¹⁹⁶

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¹⁹⁴ For the *sayetteries*, in particular: first in Hondschoote, Bergues-Saint-Winoc (from 1433), and Tournai; then in Lille, Amiens, Arras, Mons, and Saint-Omer; and finally, by the early to mid-sixteenth century, in Bruges, Ghent, Ypres, Mechelen, Leuven, Brussels, Leiden, Armentières, Valenciennes, Neuve-Église, Bailleul, Béthune, Orchies, Diksmuide, Poperinge, Menen, Halluin, Oudenburg, Lo, Douai, Mons, Beauvais, Montreuil, Cambrai, Saint-Quentin, Aubenton, Huy, Péronne, Reims, and Abbeville. See Coornaert, *Bergues-Saint-Winoc*; Coornaert, *Hondschoote*, pp. 13–4, 81–2, 214–5; Van Haeck, *Sayetterie à Lille*, I, , pp. 46–95; Maugis, 'Saietterie à Amiens', pp. 1–115; Chorley, 'Draperies légères', pp. 151–66; Duplessis, 'One theory', pp. 129–72; Martin, 'New draperies in Norwich', pp. 245–74; Vermaut, 'Structural transformation', pp. 187–92.

¹⁹⁵ Over seven decades ago, in 1930, Coornaert sought to correct many of Pirenne's errors in his *La draperie-sayetterie d'Hondschoote*, and then again, in 1950, in his article 'Draperies rurales, draperies urbaines', pp. 60–96, but to little avail. For my other studies on this theme, see in particular: Munro, 'Origins of the English "New Draperies"', pp. 35–127; Munro, 'Symbiosis of towns and textiles', pp. 1–74.

¹⁹⁶ See Noordegraaf, 'New Draperies', pp. 173–96; Holderness, 'New Draperies in England', pp. 217–44; Martin, 'New Draperies in Norwich', pp. 245–74; Posthumus, *Leidsche lakenindustrie*, II, *passim*; Wilson, 'Cloth production', pp. 94–113; and Van der Wee, 'Woollen industries, 1500–1750', pp. 397–472; Bowden, *Wool trade*, pp. 1–32; Hartwell, 'Destiny of British wool', pp. 326–38.

Footnote references

- Abraham-Thisse, S., 'Le commerce des draps de Flandre en Europe du Nord: Faut-il encore parler du déclin de la draperie flamande au bas moyen-âge?' in M. Boone and W. Prevenier, eds., *La draperie ancienne des Pays Bas: débouchés et stratégies de survie (14e-16e siècles)* / *Draperies production in the late medieval Low Countries: Markets and strategies for survival (14th-16th Centuries)*, Studies in urban social, economic and political history of the medieval and modern low Countries (Leuven, 1993), pp. 167-206.
- Amman, H., 'Deutschland und die Tuchindustrie Nordwesteuropas im Mittelalter', *Hansisches Geschichtsblätter*, 72 (1954), pp. 1-63.
- Anes, G., *Cultivos, cosechas y pastoreo en la España moderna*, Clave Historial no. 6 (Madrid: Real Academia de la Historia, 1999).
- Barnes, F. R., 'The taxation of wool, 1327-48', in G. Unwin, ed., *Finance and trade under Edward III* (1918), pp. 137-77.
- Boone, M., ed., 'Nieuwe teksten over de Gentse draperie: wolaanvoer, productiewijze en controlepraktijken (ca. 1456-1468)', *Bulletin de la commission royale d'histoire*, 154 (1988), pp. 1-61.
- Bowden, P., 'The wool supply and the woollen industry', *Economic History Review*, 2nd ser. 9 (1956-57), pp. 44-58.
- Bowden, P., *The wool trade in Tudor and Stuart England* (1962).
- Brand, H., 'Crisis, beleid en differentiatie in de laat-middeleeuwse Leidse lakennijverheid', in J. K. S. Moes and B. M. A. De Vries, eds., *Stof uit het Leidse verleden: zeven eeuwen textielnijverheid* (Leiden, 1991), pp. 53-5, 201-5 (notes).
- Brand, H., 'Urban policy or personal government: the involvement of the urban elite in the economy of Leiden at the end of the middle ages', in H. Diederiks, P. Hohenberg, and M. Wagenaar, eds., *Economic policy in Europe since the late middle ages: the visible hand and the fortune of cities* (Leicester, 1992), pp. 17-34.
- Brand, H., 'A medieval industry in decline: the Leiden drapery in the first half of the sixteenth century', in M. Boone and W. Prevenier, eds., *La draperie ancienne des Pays Bas: débouchés et stratégies de survie (14e-16e siècles)* / *Draperies production in the late medieval low countries: markets and strategies for survival (14th-16th centuries)*, Studies in urban social, economic and political history of the medieval and modern Low Countries (Leuven, 1993), pp. 121-49.
- Brand, H., *Over macht en overwicht: Steketijke elites in Leiden (1420-1510)*, Studies in urban social, economic and political history of the medieval and modern Low Countries no. 6 (Leuven, 1996), pp. 169-80.
- Braudel, F., *The Mediterranean and the Mediterranean world in the age of Philip II*, 2nd rev. edn, trans Siân Reynolds, 2 vols. (New York, 1973).
- Brulez, W., 'Le commerce international des Pays-Bas au XVI siècle: essai d'appréciation quantitative', *Belgische tijdschrift voor filologie en gescheidenis/Revue belge de philologie et d'histoire*, 46 (1968), pp. 1205-21; reissued in English translation as: 'The balance of trade in The Netherlands in the middle of the sixteenth century', *Acta Historiae Neerlandica*, 4 (1970), pp. 20-48.
- Brulez, W., 'Engels laken in Vlaanderen in de 14^e en 15^e eeuw', *Handelingen van het genootschap 'Société d'Emulation' te Brugge*, 108 (1971), pp. 10-20.
- Cabo Alonso, Á., 'Medio natural y trashumancia en la España peninsular', in F. R. Martin and Á. García Sanz, eds., *Mesta, transhumancia y lana en la España moderna* (Barcelona, 1998), pp. 11-41.
- Campbell, B., ed., *Before the Black Death: Studies in the 'crisis' of the early fourteenth century* (Manchester, 1991).
- Carrère, C., 'Aspects de la production et du commerce de la laine en Aragon au milieu du XVe siècle', in M. Spallanzani, ed., *La lana come materia prima: I fenomeni della sua produzione e circolazione nei secoli XIII-XVII*, Istituto internazionale di storia economica, Prato, Serie II (Florence, 1974), pp. 205-19.
- Carter, H. B., *His Majesty's Spanish flock: Sir Joseph Banks and the merinos of George III of England* (1964).
- Carus-Wilson, E., 'An industrial revolution of the thirteenth century', *Economic History Review*, 1st series 11 (1941), reprinted in her *Medieval merchant venturers: Collected studies* (1954), pp. 183-211.
- Carus-Wilson, E., and Coleman, O. *England's export trade, 1275-1547* (Oxford, 1963).
- Childs, W., *Anglo-Castilian trade in the later middle ages* (Manchester, 1978).
- Childs, W., 'The English export trade in cloth in the fourteenth century', in R. Britnell and J. Hatcher, eds., *Progress and problems in medieval England: essays in honour of Edward Miller* (Cambridge, 1996), pp. 121-47.
- Chorley, P., 'The cloth exports of Flanders and northern France during the thirteenth century: a luxury trade?' *Economic History Review*, 2nd ser. 40 (1987), pp. 349-79.

- Chorley, P., 'English cloth exports during the thirteenth and early fourteenth centuries: the continental evidence', *Historical Research: The Bulletin of the Institute of Historical Research*, 61(144) (February 1988), pp. 1–10.
- Chorley, P., 'The "Draperies Légères" of Lille, Arras, Tournai, Valenciennes: New materials for new markets?', in M. Boone and W. Prevenier, eds., *La draperie ancienne des Pays Bas: débouchés et stratégies de survie (14e–16e siècles)/ Drapery production in the late medieval Low Countries: markets and strategies for survival (14th–16th centuries)*, Studies in urban social, economic and political history of the medieval and modern Low Countries (Leuven, 1993), pp. 151–66.
- Chorley, P., 'The evolution of the woollen, 1300–1700', in N. B. Harte, ed., *The new draperies in the Low Countries and England, 1300–1800*, Pasold Studies in Textile History no. 10 (Oxford, 1997), pp. 7–34.
- Coleman, D., 'An innovation and its diffusion: the "New Draperies"', *Economic History Review*, 2nd ser. 12 (1969), pp. 417–29.
- Coornaert, E., *La draperie-sayetterie d'Hondschoote, XIVe–XVIIIe siècles* (Paris, 1930).
- Coornaert, E., *Une industrie urbaine du XIVe au XVIIe siècle: l'industrie de la laine à Bergues-Saint-Winoc* (Paris, 1930).
- Coornaert, E., 'Draperies rurales, draperies urbaines: l'évolution de l'industrie flamande au moyen âge et au XVI siècle', *Belgische tijdschrift voor filologie en geschiedenis/Revue belge de philologie et d'histoire*, 28 (1950), pp. 60–96.
- Daenell, E. R., *Die Blütezeit der deutschen Hanse*, 2 vols. (Berlin, 1905).
- Delepierre, O. and Willems, M. F., eds., *Collection des keuren ou statuts de tous les métiers de Bruges* (Ghent, 1842).
- De Roover, R., *Money, banking, and credit in mediaeval Bruges: Italian merchant-bankers, lombards, and money changers* (Cambridge, Mass., 1948).
- De Pauw, N., ed., *Ypre jeghen Poperinghe angaende den verbonden: gedingstukken der XIVde eeuw nopens het laken* (Ghent, 1899).
- De Poerck, G., *La draperie médiévale en Flandre et en Artois: technique et terminologie*, 3 vols. (Bruges, 1951): vol. II: *Glossaire français*; vol. III: *Glossaire flamand*.
- De Potter, F. and Broeckhart, J., *Geschiedenis der stad Aalst*, 2 vols. (Aaslt, 1873–1876).
- De Sagher, H., et al., eds., *Recueil de documents relatifs à l'histoire de l'industrie drapière en Flandre, IIe partie: le sud-ouest de la Flandre depuis l'époque bourguignonne*, 3 vols. (Brussels, 1951–66).
- Diegerick, I. L. A., ed., *Inventaire analytique et chronologique des chartes and documents appartenants de la ville d'Ypres*, 6 vols. (Bruges, 1853–60).
- Dollinger, P., *The German Hansa*, trans. and ed. D. S. Ault and S. H. Steinberg (1970).
- Dubois, M., ed., 'Textes et fragments relatifs à la draperie de Tournai au moyen âge', *Revue du Nord*, 32 (1950), pp. 145–65 (part 1), pp. 219–35 (part 2).
- Duplessis, R., 'One theory, two draperies, three provinces, and a multitude of fabrics: The New Drapery of French Flanders, Hainaut, and the Tournaisis, c.1500–c.1800', in N. Harte, ed., *The New Draperies in the Low Countries and England, 1300–1800*, Pasold Studies in Textile History no. 10 (Oxford, 1997), pp. 129–72.
- Endrei, W., and Egan, G., 'The sealing of cloth in Europe, with special reference to the English evidence', *Textile History*, 13 (Spring 1982), pp. 47–76.
- Epstein, S., *Freedom and Growth: the Rise of States and Markets in Europe, 1300–1750* (2000).
- Espinas, G., *La vie urbaine de Douai au moyen âge*, 3 vols. (Paris, 1913).
- Espinas, G., 'Une draperie rurale dans la Flandre française au XVe siècle: la draperie rurale d'Estaires (Nord): 1428–1434', *Revue d'histoire des doctrines économiques et sociales*, 11 (1923), pp. 1–44.
- Espinas, G., *La draperie dans la Flandre française au moyen âge*, 2 vols. (Paris, 1923).
- Espinas, G. and Pirenne, H., eds., *Recueil de documents relatifs à l'histoire de l'industrie drapière en Flandre: Ire partie: des origines à l'époque bourguignonne*, 4 vols., Commission Royale d'Histoire (Brussels, 1906–1924).
- Favresse, F., ed., 'Actes inédits du magistrat et de la Gilde de Bruxelles relatifs à la draperie urbaine, depuis 1343 environ jusqu' à l'apparition de la "nouvelle draperie", vers 1440', *Bulletin de la Commission Royale d'Histoire*, 112 (1947), pp. 1–100.
- Favresse, F., ed., 'Note et documents sur l'apparition de la "nouvelle draperie" à Bruxelles, 1441–1443', *Bulletin de la Commission Royale d'Histoire*, 112 (1947), pp. 143–67.
- Fear, A. T., 'The golden sheep of Roman Andalusia', *Agricultural History Review*, 40:ii (1992), pp. 151–5.
- Finot, J., *Étude historique sur les relations commerciales entre la Flandre et l'Espagne au moyen âge* (Paris, 1899).
- Fryde, N. von Stromer, 'Stamford cloth and its imitations in the Low Countries and northern France during the thirteenth century', in E. Aerts and J. Munro, eds., *Textiles of the Low Countries in European*

- Economic History*, Proceedings of the Tenth International Economic History Congress, Studies in Social and Economic History vol. 19 (Leuven, 1990), pp. 8–13.
- Gerbet, M.-C., *L'élevage dans la royauté de Castille sous les rois Catholiques (1454–1516)*, Publications de la Casa de Valázques: Série études et documents no. 6 (Madrid, 1991).
- Gerbet, M.-C., *Un élevage original au Moyen Âge: la péninsule Ibérique* (Biarritz, 2000).
- Gilliodts-Van Severen, L., ed., *Inventaire des Archives de la ville de Bruges*, 6 vols. (Bruges, 1871–78).
- Gilliodts-Van Severen, L., ed., 'Les relations de la Hanse teutonique avec la ville de Bruges au commencement du XVI^e siècle', *Compte rendu des séances de la Commission Royale d'Histoire*, 4th series, 7 (1879–80).
- Gilliodts-Van Severen, L., ed., *Cartulaire de l'ancien consulat d'Espagne à Bruges*, 2 vols. (Bruges, 1901).
- Gilliodts-Van Severen, L., ed., *Cartulaire de l'ancienne estaple de Bruges*, 2 vols. (Bruges, 1904–8).
- Gilliodts-Van Severen, L., ed., *Cartulaire de l'ancien grand tonlieu de Bruges*, 2 vols. (Bruges, 1906–8).
- Gómez-Pantoja, J., ed., *Los rebaños de Gerion: Pastores y trashumancia en Iberia antigua y medieval*, Collection de la Casa de Valázques: Série études et documents no. 73 (Madrid, 2001).
- Gras, N. S. B., *The early English customs system: a documentary study of the institutional and economic history of the customs from the thirteenth to the sixteenth century* (Cambridge, Mass., 1918).
- Gross, C., *The guild merchant: a contribution to British municipal history*, 2 vols. (Oxford, 1890).
- Hanhnam, A., 'Foreign exchange and the English wool merchant in the late fifteenth century', *Bulletin of the Institute of Historical Research: University of London*, 46 (1973), pp. 160–75.
- Hanhnam, A., *The Celys and their world: an English merchant family of the fifteenth century* (Cambridge, 1985).
- Hartwell, R. M., 'A revolution in the character and destiny of British wool', in N. B. Harte and K. G. Ponting (eds), *Textile history and economic history: essays in honour of Miss Julia de Lacy Mann* (Manchester, 1973), pp. 320–38.
- Hatcher, J., 'The great slump of the mid-fifteenth century', in R. Britnell and J. Hatcher, eds., *Progress and problems in medieval England* (Cambridge, 1996), pp. 237–72.
- Heers, J., 'Il commercio nel Mediterraneo alla fine del XIV secolo e nei primi anni del secolo XV', *Archivio storico italiano*, 113 (1955), pp. 192–95.
- Herlihy, D., *Medieval and Renaissance Pistoia: the social history of an Italian town, 1200–1430* (New Haven, 1966).
- Höhlbaum, K., ed., *Hansische Urkundenbuch*, 11 vols. (Halle-Leipzig, 1876–1939).
- Holderness, B. A., 'The reception and distribution of the New Draperies in England', in N. Harte, ed., *The New Draperies in the Low Countries and England* (Oxford, 1997), pp. 217–44.
- Iradíel Murugarren, P., *Evolución de la industria textil castellana en los siglos XIII–XVII: factores de desarrollo, organización, y costas de la producción manufactura en Cuenca* (Salamanca, 1974).
- Jansma, T. S., 'Philippe le Bon et la guerre hollando-wende', *Revue du Nord*, 42 (1960), pp. 5–18.
- Ketner, F., *Handel en scheepvaart van Amsterdam in de vijftiende eeuw* (Leiden, 1946).
- Klein, J., *The Mesta: a study in Spanish economic history, 1273–1836* (Cambridge, Mass., 1920).
- Lameere, M. J., and Simont, H., eds., *Recueil des ordonnances des Pays Bas*, 2nd ser.: 1506–1700, Commission Royale d'Histoire, Vol. V (Brussels, 1910).
- Lipson, E., *A short history of wool and its manufacture* (1921).
- Lloyd, T. H., *The movement of wool prices in medieval England*, *Economic History Review* supplement no. 6 (1973).
- Lloyd, T. H., *The english wool trade in the middle ages* (Cambridge, 1977).
- Lloyd, T. H., *England and the German Hanse, 1157–1611: a study of their trade and commercial diplomacy* (Cambridge, 1991).
- Lopez, R., 'The origin of the merino sheep', *The Joshua Starr memorial volume: studies in history and philology*, Jewish Social Studies no. 5 (New York, 1953).
- Malanima, P., 'The first European textile machine', *Textile History*, 17 (1986), pp. 115–28.
- Malowist, M., 'L'expansion économique des Hollandais dans le bassin de la Baltique aux XIV^e et XV^e siècles', from his *Studia z dziejów rzemiosła w okresie kryzysu feudalizmu w Europie Zachodniej w XIV i XV wieku* (Warsaw, 1954); republished in his *Croissance et regression en Europe, XIV^e–XVII^e siècles*, in the series Cahiers des Annales, No. 34 (Paris, 1972), pp. 91–138.
- Mann, J. de Lacy, *The cloth industry in the west of England from 1640 to 1880* (Oxford, 1971).
- Maréchal, J., 'La colonie espagnole de Bruges du XIV^e au XVI^e siècle', *Revue du Nord*, 35 (1953), p. 5.
- Martin, L., 'The rise of the New Draperies in Norwich, 1550–1622', in N. Harte, ed., *The New Draperies in the Low Countries and England, 1300–1800*, Pasold studies in textile history no. 10 (Oxford, 1997), pp. 245–74.
- Maugis, E., 'La saïetterie à Amiens, 1480–1587', *Vierteljahrsschrift für Sozial-und Wirtschaftsgeschichte*, 5 (1907), pp. 1–115.

- Melis, F., 'Mercanti-imprenditori italiani in Fiandra alla fine de Trecenti', *Economia e storia*, 5 (1958), pp. 144–61.
- Melis, F., 'La diffusione nel Mediterraneo occidentale dei panni di Wervicq e delle altre città della Lys attorno al 1400', in *Studi in onore di Amintore Fanfani*, 3 vols., Vol III: *Medioevo* (Milan, 1962), pp. 233–4.
- Melis, F., *Aspetti della vita economica medievale: studi nell'archivio Datini di Prato*, Vol. I (Florence, 1962).
- Melis, F., 'La lana della Spagna mediterranea e della Barberia occidentale', in Marco Spallanzan, ed., *La lana come materia prima: I fenomeni della sua produzione e circolazione nei secoli XIII–XVII*, Istituto internazionale di storia economica, Prato, Serie II (Florence, 1974), pp. 241–51.
- Mertens, W., 'Changes in the production and export of Mechelen cloth, 1330–1530', in E. Aerts and J. Munro, eds., *Textiles of the Low Countries in European economic history*, Studies in social and economic history, Vol. 19 (Leuven, 1990), pp. 114–23.
- Mertens, W., 'Toenemende economische welvaart', in R. Van Uytven, ed., *De geschiedenis van Mechelen: van heerlijkheid tot stadsgewest* (Lannoo, 1991), pp. 83–93.
- Mills, F. C., *Introduction to statistics* (New York, 1956).
- Morand, F., ed., *Chronique de Jean le Fèvre de St. Remy*, 2 vols. (Paris, 1876).
- Munro, J., 'Bruges and the abortive Staple in English Cloth', *Belgische tijdschrift voor filologie en gescheidenis/Revue belge de philologie et d'histoire*, 44 (1966), pp. 1138–59.
- Munro, J., 'An economic aspect of the collapse of the Anglo-Burgundian alliance, 1428–1442', *English Historical Review*, 85 (1970), pp. 225–44.
- Munro, J., *Wool, cloth and gold: the struggle for bullion in Anglo-Burgundian trade, ca. 1340–1478* (Brussels, 1973).
- Munro, J., 'Industrial protectionism in medieval Flanders: urban or national?', in D. Herlihy, H. A. Miskimin and A. Udovitch, eds., *The medieval city* (London and New Haven, 1977), pp. 229–67; reprinted in J. Munro, *Textiles, towns, and trade: essays in the economic history of late-medieval England and the Low Countries*, Variorum Collected Studies series CS 442 (1994).
- Munro, J., 'Wool price schedules and the qualities of English wools in the later middle ages', *Textile History*, 9 (1978), pp. 118–69.
- Munro, J., 'The 1357 wool price schedule and the decline of Yorkshire wool values', *Textile History*, 10 (1979), pp. 211–19.
- Munro, J., 'Bullionism and the Bill of Exchange in England, 1272–1663: A study in monetary management and popular prejudice', in The Center for Medieval and Renaissance Studies of the University of California, ed., *The dawn of modern banking* (New Haven, 1979), pp. 169–239.
- Munro, J., 'Monetary contraction and industrial change in the late-medieval Low Countries, 1335–1500', in N. Mayhew, ed., *Coinage in the Low Countries (880–1500): Third Oxford Symposium on Coinage and Monetary History*, British Archeological Reports, International Series no. 54 (Oxford, 1979), pp. 95–161.
- Munro, J., 'Economic depression and the arts in the fifteenth-century Low Countries', *Renaissance and Reformation*, 19 (1983), pp. 235–50.
- Munro, J., 'Bullion flows and monetary contraction in late-medieval England and the Low Countries', in J. F. Richards, ed., *Precious metals in the later medieval and early modern worlds* (Durham, 1983), pp. 112–26.
- Munro, J., 'The medieval scarlet and the economics of sartorial splendour', in N. B. Harte and K. G. Ponting, eds., *Cloth and clothing in medieval Europe: Essays in Memory of Professor E. M. Carus-Wilson*, Pasold studies in textile history no. 2 (1983), pp. 13–70.
- Munro, J., 'Textile technology', and 'Textile workers', in J. R. Strayer, ed., *The dictionary of the middle ages*, Vol. XI (New York, 1988), pp. 693–715.
- Munro, J., 'Deflation and the petty coinage problem in the late-medieval economy: the case of Flanders, 1334–1484', *Explorations in Economic History*, 25 (October 1988), pp. 387–423.
- Munro, J., 'Urban regulation and monopolistic competition in the textile industries of the late-medieval Low Countries', in E. Aerts and J. Munro, eds., *Textiles of the Low Countries in European economic history*, Studies in Social and Economic History, Vol. 19 (Leuven, 1990), pp. 41–52.
- Munro, J., 'Industrial transformations in the north-west European textile trades, c.1290–c.1340: Economic progress or economic crisis?', in B. M. S. Campbell, ed., *Before the Black Death: studies in the 'crisis' of the early fourteenth century* (Manchester, 1991), pp. 110–48.
- Munro, J., 'The central European mining boom, mint outputs, and prices in the Low Countries and England, 1450–1550', in E. H. G. Van Cauwenberghe, ed., *Money, coins, and commerce: essays in the monetary history of Asia and Europe (From antiquity to modern times)*, Studies in social and economic history, Vol. 2 (Leuven, 1991), pp. 119–83.
- Munro, J., 'Industrial entrepreneurship in the late-medieval Low Countries: Urban draperies, fullers, and the art of survival', in P. Klep and E. Van Cauwenberghe, eds., *Entrepreneurship and the transfor-*

- mation of the economy (10th–20th Centuries): essays in honour of Herman Van der Wée (Leuven, 1994), pp. 377–88.
- Munro, J., 'Anglo-Flemish competition in the international cloth trade, 1340–1520', *Publication du centre européen d'études bourguignonnes*, 35 (1995), pp. 37–60 [*Rencontres d'Oxford (septembre 1994): L'Angleterre et les pays bas bourguignons: relations et comparaisons, Xve–XVIe siècle*, ed. J.-M. Cauchies].
- Munro, J., 'The origins of the English "New Draperies": the resurrection of an old Flemish industry, 1270–1570', in N. Harte, ed., *The New Draperies in the Low Countries and England, 1300–1800*, Pasold studies in textile history, no. 10 (Oxford, 1997), pp. 35–127.
- Munro, J., 'Cloth manufacture and trade', in J. Rosenthal, ed., *Medieval England: an encyclopedia* (New York, 1997), pp. 194–7.
- Munro, J., 'Textiles as articles of consumption in Flemish towns, 1330–1575', *Bijdragen tot de geschiedenis*, 81, 1–3 (1998), pp. 275–88.
- Munro, J., 'The symbiosis of towns and textiles: urban institutions and the changing fortunes of cloth manufacturing in the Low Countries and England, 1270–1570', *The Journal of Early Modern History: Contacts, Comparisons, Contrasts*, 3, 1, (Feb. 1999), pp. 1–74.
- Munro, J., 'The "industrial crisis" of the English textile towns, 1290–1330', in M. Prestwich, R. Britnell, and R. Frame, eds., *Thirteenth-century England*, VII (Woodbridge, 1999), pp. 103–41.
- Munro, J., 'The Low Countries' export trade in textiles with the Mediterranean basin, 1200–1600: a cost-benefit analysis of comparative advantages in overland and maritime trade routes', *The International Journal of Maritime History*, 11, 2, (Dec. 1999), pp. 1–30.
- Munro, J., 'English "backwardness" and financial innovations in commerce with the Low Countries, 14th to 16th centuries', in P. Stabel, B. Blondé, and A. Greve, eds., *International trade in the Low Countries (14th–16th Centuries): merchants, organisation, infrastructure*, Studies in urban, social, economic, and political history of the medieval and early modern Low Countries (M. Boone, general editor), no. 10 (Leuven, 2000).
- Munro, J., 'The "new institutional economics" and the changing fortunes of fairs in medieval and early modern Europe: the textile trades, warfare, and transaction costs', *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, 88, 1, (2001), pp. 1–47.
- Munro, J., 'Wage stickiness, monetary changes, and real incomes in late-medieval England and the Low Countries, 1300–1500: did money matter?', *Research in Economic History*, 21 (2003), pp. 185–297.
- Munro, J., 'Medieval woollens: textiles, textile technology, and industrial organization, c.1000–1500', in D. Jenkins, ed., *The Cambridge history of western textiles* (Cambridge, 2003), vol. I, pp. 181–227.
- Munro, J., 'Medieval woollens: the west European woollen industries and their struggles for international markets, c.1000–1500', in D. Jenkins, ed., *The Cambridge history of western textiles* (Cambridge, 2003), vol. I, pp. 228–324.
- Munro, J., 'Manufacturing and industry', in W. Jordan, ed., *Dictionary of the middle ages: supplement 1* (New Yorks, 2004), pp. 345–55.
- Munro, J., 'Builders' wages in southern England and the southern Low Countries, 1346–1500: a comparative study of trends in and levels of real incomes', in S. Caviococchi, ed., *L'Edilizia prima della rivoluzione industriale, secc. XIII–XVIII*, Atti delle 'Settimana di Studi' e altri convegni, no. 36, Istituto Internazionale di Storia Economica 'Francesco Datini' (Florence, 2005), pp. 1013–76.
- Murray, J., 'Cloth, banking, and finance in medieval Bruges', in E. Aerts and J. Munro, eds., *Textiles of the Low Countries in European economic history*, Studies in social and economic history, vol. 19 (Leuven, 1990), pp. 24–31.
- Nahlik, A., 'The wool of the middle ages: some results of the searching of textiles excavated in central and east Europe', in M. Spallanzani, ed., *La lana come materia prima: I fenomeni della sua produzione e circolazione nei secoli XIII–XVII*, Istituto internazionale di storia economica "F. Datini", serie II, no. 1 (Florence, 1974), pp. 369–77.
- Nahlik, A., 'The interpretation of textile remains as a source for the history of the textile industry of the 10th–15th centuries', in M. Spallanzani, ed., *Produzione, commercio, e consumo dei panni di lana, nei secoli XII–XVIII*, Istituto internazionale di storia economica "F. Datini", serie II, no. 2 (Florence, 1976), pp. 603–12.
- Nicholas, D., *Town and countryside: social, economic, and political tensions in fourteenth-century Flanders* (Bruges, 1971).
- Nightingale, P., 'England and the European depression of the mid-fifteenth century', *Journal of European Economic History*, 26(3) (1997), pp. 631–56.
- Noordegraaf, L., 'The New Draperies in the northern Netherlands, 1500–1800', in N. Harte, ed., *The New Draperies in the Low Countries and England* (Oxford, 1997), pp. 173–96.
- North, D. and Thomas, R., *The rise of the western world: a new economic history* (Cambridge, 1973).
- Origo, I., *The Merchant of Prato: Francesco di Marco Datini* (1957), pp. 69–70, 74–6.

- Ormrod, W. M., 'The Crown and the English economy, 1290–1348', in B. M. S. Campbell, ed., *Before the Black Death: studies in the 'crisis' of the early fourteenth century* (Manchester, 1991), pp. 149–83.
- Pastor de Togneri, R., 'La lana en Castilla y León antes de la organización de la Mesta', *Moneda y crédito*, no. 112 (March 1970), pp. 47–70, reprinted in M. Spallanzani, ed., *La lana come materia prima: I fenomeni della sua produzione e circolazione nei secoli XIII–XVII*, Istituto internazionale di storia economica, Prato, Serie II, no. 1 (Florence, 1974), pp. 253–67.
- Phillips, C. Rahn and Phillips, W., *Spain's golden fleece: wool production and the wool trade from the middle ages to the nineteenth century* (Baltimore, 1997).
- Phillips, W., 'Merchants of the fleece: Castilians in Bruges and the wool trade', in P. Stabel, B. Blondé, and A. Greve, eds., *International trade in the Low Countries (14th–16th Centuries): merchants, organisation, infrastructure*, Studies in urban, social, economic, and political history of the medieval and early modern Low Countries no. 10 (Leuven, 2000), pp. 75–86.
- Pilgrim, J. E., 'The rise of the "New Draperies" in Essex', *University of Birmingham Historical Journal*, 7 (1959–60), pp. 36–59.
- Phelps Brown, H. and Hopkins, S., 'Seven centuries of building wages', *Economica*, 22, 87, (1955), pp. 195–206; reprinted in H. Phelps Brown and S. Hopkins, *A perspective of wages and prices* (1981), pp. 1–12.
- Piot, C., ed., *Inventaire des chartes de la ville de Léau* (Brussels, 1879).
- Pirenne, H., *Histoire de Belgique*, 6 vols. (Brussels, 1900–22).
- Pirenne, H., 'Les dénombrements de la population d'Ypres au XVe siècle (1412–1506)', *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, 1 (1903), reprinted in *Histoire économique de l'occident médiéval*, ed. E. Coornaert (Bruges, 1951), pp. 458–88.
- Pirenne, H., 'Une crise industrielle au XVIe siècle: la draperie urbaine et la nouvelle draperie en Flandre', *Bulletin de l'Académie royale de Belgique: Classe des Belles Lettres* (Brussels, 1905), both reprinted in *Histoire économique de l'occident médiéval*, ed. E. Coornaert (Bruges, 1951), pp. 621–43.
- Ponting, K., *The woollen industry of south-west England: an industrial, economic, and technical survey* (Bath, 1971).
- Postan, M., 'Credit in medieval trade', *Economic History Review*, 1st ser. 1 (1928); reprinted in M. Postan, *Medieval Trade and Finance* (Cambridge, 1973), pp. 1–27.
- Postan, M., 'Economic and political relations of England and the Hanse, 1400–1475', in M. Postan and E. Power, eds., *Studies in English trade in the fifteenth century* (1933), pp. 39–90, 91–154.
- Posthumus, N., *Geschiedenis van de Leidsche lakenindustrie*, 3 vols. (The Hague, 1908–1939), Vol. I: *De Middeleeuwen, veertiende tot zestiende eeuw* (1908).
- Posthumus, N., ed., *Bronnen tot de geschiedenis van de leidsche textielnijverheid, 1333–1795*, 3 vols. (The Hague, 1910–22).
- Postles, D., 'Fleece weights and the wool supply, c.1250–c.1350', *Textile History*, 12 (1981), pp. 96–103.
- Power, E., 'The wool trade in the fifteenth century', in E. Power and M. M. Postan, eds., *Studies in English trade in the fifteenth century* (1933).
- Prims, F., 'De eerste eeuw van de lakennijverheid to Antwerpen (1226–1328)', *Antwerpsch archievenblad*, 2nd ser., 3 (1928), pp. 147–8.
- Rich, E. E., ed., *The ordinance book of the merchants of the Staple*, Cambridge studies in economic history (Cambridge, 1937).
- Riley, H. T., ed., *Munimenta Gildhallae Londoniensis: liber albus, liber custumarum et liber horn*, 2 vols. (1859–62).
- Riu, M., 'The woollen industry in Catalonia in the later Middle Ages', in N. B. Harte and K. G. Ponting, eds., *Cloth and clothing in medieval Europe* (1983), pp. 205–29.
- Rogers, J. E. T., *A history of agriculture and prices in England*, 7 Vols. (Oxford, 1866–1902), vols. I and II: *1259–1400* (1866).
- Ropp, G. von der, ed., *Hanserecesse, 1431–1476*, Verein für Hansische Geschichte, second series, 7 vols. (Leipzig, 1876–92).
- Rossini, E. and Mazzaoui, M., 'Società e tecnica nel medioevo: La produzione dei panni di lana a Verona nei secoli XIII–XIV–XV', *Atti e memorie della Accademia di Agricoltura, Scienze e Lettere di Verona*, 6th ser. 21 (1969–70).
- Ruiz Martin, F., 'Pastos y granaderos en Castilla: la Mesta (1450–1600)', in M. Spallanzani, ed., *La lana come materia prima: I fenomeni della sua produzione e circolazione nei secoli XIII–XVII*, Istituto internazionale di storia economica, Prato, Serie II, no. 1 (Florence, 1974), pp. 271–85; reissued in F. Ruiz Martin and Á. García Sanz, eds., *Mesta, transhumancia y lana en la España moderna* (Barcelona, 1998), pp. 42–64.
- Ruiz Martin, F. and García Sanz, Á., eds., *Mesta, transhumancia y lana en la España moderna* (Barcelona, 1998).

- Ryder, M., 'The history of sheep breeds in Britain', *Agricultural History Review*, 12 (1964), pp. 1–12, 65–82.
- Ryder, M., 'The wools of Britain', in J. Geraint Jenkins, ed., *The wool textile industry in Great Britain* (1972), pp. 51–64.
- Ryder, M., 'Wools from antiquity', *Textile History*, 5 (1974), pp. 100–10.
- Ryder, M., 'British medieval sheep and their wool types', in D. W. Crossley, ed., *Medieval industry* (1981), pp. 16–28.
- Ryder, M., *Sheep & Man* (1983).
- Ryder, M., 'Medieval sheep and wool types', *Agricultural History Review*, 32 (1984), pp. 14–28.
- Rymer, T., ed., *Foedera, conventiones, literae, et acta publica*, 12 vols. (1709–12).
- Schäfer, D., ed., *Hanserecesse, 1477–1530*, 3rd ser., 9 vols. (Leipzig, 1881–1913).
- Schanz, G., ed., *Englische Handelspolitik gegen Ende des Mittelalters*, 2 vols. (Leipzig, 1881), vol. II: *Zoll- und Handelsstatistik, Urkunden, und Beilagen*.
- Smit, H. J., ed., *Bronnen tot de geschiedenis van de handel met Engeland, Schotland, en Ierland, 1150–1485*, 2 vols., Rijks Geschiedenkundige Publicatiën nos. 5–6 (The Hague, 1928).
- Smith, A., *An inquiry into the nature and causes of the wealth of nations* [1776], ed. with introduction by E. Cannan and M. Lerner, Modern Library Edition (New York, 1937).
- Smith, J., *Chronicon rusticum-commerciale: or memoirs of wool*, 2 vols. (1747; reprinted, New York, 1972).
- Soil, E., 'Les tapisseries de Tournai', *Mémoire de la Société et littéraire de Tournai*, 22 (1891), p. 369.
- Soly, H. and Thijs, A., 'Nijverheid in de zuidelijke Nederlanden', in J. A. Van Houtte, ed., *Algemene geschiedenis der Nederlanden*, 12 vols. (Haarlem, 1977–1979), Vol. 6, pp. 27–57.
- Spufford, P., *Monetary problems and policies in the Burgundian Netherlands, 1433–1496* (Leiden, 1970).
- Stabel, P., 'Décadence ou survie? Économies urbaines et industries textiles dans les petite villes drapières de la Flandre orientale (14e–16e s.)', in M. Boone and W. Prevenier, eds., *Drapery production in the late medieval Low Countries: markets and strategies for survival, 14th–16th centuries* (Leuven, 1993), pp. 63–84.
- Stabel, P., *De kleine stad in Vlaanderen, 14de–16de eeuw*, Verhandelingen van de Koninklijke Academie voor Wetenschappen, Letteren en Schone Kunsten van België, Klasse der Letteren Jaargang 57 (Brussels, 1995).
- Stabel, P., *Dwarfs among giants: the Flemish urban network in the late middle ages*, Studies in urban social, economic and political history of the medieval and modern Low Countries no. 8 (Leuven, 1997).
- Stabel, P., '“Dmeeste, Oirboirlixste ende proffitelixste let ende neringhe”: Een kwantitatieve benadering van de lakenproductie in het Laatmiddeleeuwse en Vroegmoderne Vlaanderen', *Handelingen der Maatschappij voor Geschiedenis en Oudheidkunde te Gent*, new series, 51 (1997), pp. 113–53.
- Stein, W., ed., 'Handelsbriefe aus Riga und Königsberg von 1458 und 1461', *Hansisches Geschichtsblätter*, 26 (1898) pp. 59–125.
- Tawney, R. and Power, E., eds., *Tudor economic documents*, 3 vols. (1924).
- Thielemans, M.-R., *Bourgogne et Angleterre: relations politiques et économiques entre les Pays-Bas bourguignons et l'Angleterre, 1435–1467* (Brussels, 1966).
- Thijs, A., 'Les textiles au marché anversois au XVIe siècle', in E. Aerts and J. Munro, eds., *Textiles of the Low Countries in European economic history* (Leuven, 1990), pp. 76–86.
- Trow-Smith, R., *A history of British livestock husbandry to 1700* (1957).
- Unwin, G., 'The estate of merchants, 1336–1365', in G. Unwin, ed., *Finance and Trade under Edward III* (1918), pp. 179–204.
- Usher, A. P., *The industrial history of England* (Boston, 1920).
- Van der Wee, H., *Growth of the Antwerp Market and the European economy, 14th to 16th Centuries*, 3 vols. (The Hague, 1963).
- Van der Wee, H., 'Die Wirtschaft der Stadt Lier zu Beginn des 15. Jahrhundert', in H. Aubin, ed., *Beiträge zur Wirtschafts- und Stadtgeschichte: Festschrift für Hektor Ammann* (Wiesbaden, 1965), pp. 148–49.
- Van der Wee, H., 'Structural changes and specialization in the industry of the southern Netherlands, 1100–1600', *Economic History Review*, 2nd ser. 28 (1975), pp. 203–21.
- Van der Wee, H., 'Structural changes in European long-distance trade, and particularly in the re-export trade from south to north, 1350–1750', in J. Tracy, ed., *The rise of merchant empires: long-distance trade in the early modern world, 1350–1750* (Cambridge, 1990), pp. 14–33.
- Van der Wee, H., 'European banking in the middle ages and early modern period (476–1789)', in H. Van der Wee and G. Kurgan-Van Hentenrijk, eds., *A history of European banking*, 2nd edn. (Antwerp, 2000), pp. 71–265.
- Van der Wee, H., 'The western European woollen industries, 1500–1750', in D. Jenkins, ed., *The Cambridge history of western textiles* (Cambridge, 2003), pp. 395–472.
- Vangassen, H., *Geschiedenis van Ninove*, 2 vols. (Ninove, n.d.).

- Van Haeck, M., *Histoire de la sayetterie à Lille*, 2 vols. (Lille, 1910).
- Van Houtte, J., *An economic history of the Low Countries, 800–1800* (1967).
- Van Houtte, J., *Bruges: essai d'histoire urbaine* (Brussels, 1967).
- Van Houtte, J., 'De draperie van Leidse lakens in Brugge, 1503–1516: Een vroege poging tot inplanting van nieuwe nijverheden', in *Album Antoon Viaene* (Bruges, 1970), pp. 331–39; reprinted in J. A. Van Houtte, *Essays on medieval and early modern economy and society*, Symbolae facultatis litterarum et philosophiae lovaniensis series A: vol. 5 (Leuven, 1977), pp. 291–302.
- Van Uytven, R., *Stadsfinanciën en stadseconomie te Leuven van de XIIIe tot he einde der XVIe eeuw*, Verhandelingen van de koninklijke Vlaamse academie voor wetenschappen, letteren en schone kunsten van België, klasse der letteren, vol. XXIII (Brussels, 1961).
- Van Uytven, R., '“Hierlandsche” wol en lakens in Brabantse documenten (XIIIde–XVIde eeuw)', *Bijdragen tot de geschiedenis inzonderheid van het oud hertogdom Brabant*, 53 (1970), pp. 5–16.
- Van Uytven, R., 'Cloth in medieval literature of western Europe', in N. B. Harte and K. G. Ponting, eds., *Cloth and clothing in medieval Europe: essays in memory of Professor E. M. Carus-Wilson*, Pasold studies in textile history no. 2 (1983).
- Van Werveke, H., *De koopman-ondernemer en de ondernemer in de Vlaamsche lakennijverheid van de middeleeuwen*, Medelingen van de koninklijke Vlaamse academie voor wetenschappen, letteren, en schone kunsten van België, Klasse der letteren, no. VIII (Antwerp, 1946).
- Verhulst, A., 'De inlandse wol in de textielnijverheid van de Nederlanden van de 12de tot de 17de eeuw: produktie, handel, en verwerking', *Bijdragen en mededelingen betreffende de geschiedenis der Nederlanden*, 85 (1970), pp. 6–18.
- Verhulst, A., 'La laine indigène dans les anciens Pays-Bas entre le XIIe et le XVIIe siècle: mise en oeuvre industrielle, production et commerce', *Revue historique*, 247 (1972), pp. 281–327; republished in M. Spallanzani, ed., *La lana come materia prima: I fenomeni della sua produzione e circolazione nei secoli XIII–XVII*, Istituto internazionale di storia economica, Prato, Serie II, no. 1 (Florence, 1974).
- Verlinden, C., 'The rise of Spanish trade in the middle ages', *Economic History Review*, 1st ser., 10 (1940), pp. 54–6.
- Verlinden, C., 'A propos de la politique économique des ducs de Bourgogne à l'égard de l'Espagne', *Hispania: Revista española de historia*, 10 (1950), p. 700.
- Vermaut, J., 'Structural transformation in a textile centre: Bruges from the sixteenth to the nineteenth century', in H. Van der Wee, ed., *The rise and decline of urban industries in Italy and in the Low Countries: late middle ages—early modern times* (Leuven, 1988), pp. 189–200.
- Verroken, E., 'Een Oudenaards tolregister (1412–1416): een uniek document voor de economische geschiedenis en voor de draperie in het bijzonder Gentse schippers vervoerden in 1415 Spaanse wol', *Handelingen van de Geschied- en Oudheidkundige Kring van Oudenaarde*, 42 (2005), pp. 73–170.
- Vicens Vives, J., *An economic history of Spain*, 3rd edn. (Princeton, 1969).
- Warner, G., ed., *The libelle of Englyshe polycye* (Oxford, 1926).
- Willemsen, M. G., ed., 'Le règlement général de la draperie malinoise de 1544', *Bulletin du cercle archéologique de Malines*, 20 (1910), pp. 156–90.
- Willemsen, M. G., ed., 'Le règlement sur la draperie brugeoise du 20 septembre 1544', *Annales de l'Académie Royale d'Archéologie de Belgique*, 69 (1921), pp. 5–74.
- Wilson, C., 'Cloth production and international competition in the seventeenth century', *Economic History Review*, 2nd ser., 12:2 (1960), republished in C. Wilson, *Economic history and the historian: collected essays* (1969), pp. 94–113.
- Woodger, A., 'The eclipse of the Burel weaver: some technological developments in the thirteenth century', *Textile History*, 12 (1981), pp. 59–76.
- Youatt, W., *Sheep: their breeds, management, and diseases* (1837).

Official publications

- Great Britain, Parliament, *Rotuli parliamentorum ut et petitiones et placita in Parlamento [Rot Parl]*, 6 vols. (1767–77).
- Great Britain, Record Commission, *The Statutes of the Realm*, 6 vols. (1810–22).

CONTENTS

ARTICLES

JOHN MUNRO

Spanish merino wools and the nouvelles draperies: an industrial transformation in the late medieval Low Countries

SAMANTHA WILLIAMS

Poor relief, labourers' households and living standards in rural England c.1770–1834: a Bedfordshire case study

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JIM TOMLINSON

Managing the economy, managing the people: Britain c.1931–70

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